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PSYCHOLOGICAL REACTIONS IN SOLDIERS TO THE LOSS OF VISION OF ONE EYE, AND THEIR TREATMENT

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The loss of one eye is not in itself a severe disability; yet, more often than is generally known, individuals who have lost an eye are unduly distressed about their defect and feel themselves handicapped in numerous activities out of proportion to their actual disablement. Their handicaps are in the main not anatomical in origin, but are due to what is commonly described as a functional overlay. The circumstances of war have given us the opportunity of coming into contact with numerous men who had recently lost one eye, functionally or in fact, and provided us with ideal conditions in which to study their reactions; and since, apart from war, the same reactions to a large extent are met with in civilian life, their record may be not without interest. For the purposes of this study an unselected sample of 102 one-eyed soldiers was taken, of the following composition:

1. *Disability.*—Eye diseases, 39; eye injury, 63. Eye removed, 29; eye retained, 73.
2. *Rank.*—32 N.C.O.s; 70 privates or equivalent.
3. *Type of Enlistment.*—11 members of the Regular Forces, 14 Territorials, 19 volunteers, 58 conscripts.
4. *Age.*—Varying from 19 to 53.
5. *Marital Status.*—67 married, 35 single.
6. *Attributability.*—Injury attributable to enemy action, 19; injury not attributable to enemy action, 83.
7. *Duration of disability:*

   26 men were seen within six months of the onset of their eye disease or within six months subsequent to their eye injury.

   15 men were classed as having subchronic, chronic, or recurrent eye diseases (still or again in a florid state).

   61 men had been blind in one eye as a result of eye disease or of injury for at least six months. The latter were regarded as permanently blind in one eye.

Emotional Reaction to Monocular Eye Injury and Disease

Eye Injury.—Men who sustain a serious injury to one eye in an accident or in battle rarely lose consciousness immediately. In many cases they see a flash and feel the impact of the shell fragment like a blow from a boxing-glove or like being struck by a sledgehammer. Instinctively they raise their corresponding arm in self-defence. Sometimes they are completely blind for a time; sometimes, in the heat of the battle, their injury remains almost unnoticed, and only blood trickling down the cheek or dropping on to their arm indicates what has happened. On arriving at the hospital a sense of relief commonly prevails: after all, it is good to be alive; they are really lucky, and it could have been much worse. Their hopes and fears rise and fall with the prognostications of their medical officers, and where excision of the eye is deemed necessary depression is usual. Lying in bed in hospital they think of their occupational prospects. As they now are their old firm may not take them back. Will they be able to support their families? It is true that they can still see, but will the other eye be affected? If so, this would mean blindness, uselessness, and dependence on other people for the rest of their lives. The first look in a mirror gives them, almost invariably, another shock. But in general they are sustained by the spirit and atmosphere of the hospital, and overriding all other considerations there is the desire to get home as quickly as possible.

Eye Diseases.—A man with an acute affection of one eye rightly or wrongly usually attributes his disability to eye-strain, a blow, or a cold. On admission to hospital he either dismisses the eye trouble light-heartedly, trusting implicitly in the skill of the ophthalmologist, or he is alarmed about the possibility of its being something serious. Absence of pain, no outward appearance of disease, and insidious onset allied to the concern of his doctor, arouse anxiety, but encouraging remarks by doctors and nurses dispel these initial fears. Much depends upon the doctor's attitude. If the eye specialist expresses any doubt about the full restoration of vision, dormant fears regarding blindness are greatly accentuated; and if the verdict is passed that the loss of the one eye is inevitable these fears assume quite unreasonable proportions.

In chronic cases, if after many months or even years of careful medical attention the condition deteriorates or shows no visible signs of improvement, the man is affected, as a general rule, in two extreme and contrasting ways which depend on his personality. He either hopes for the best on the basis of his past experiences, or he expects the worst, regarding any relapse as a further threat to his vision. Hope of complete recovery is then abandoned, and the much-dreaded blindness, now no longer a vague possibility, looms before him as almost inevitable. Whether or not this fear is justified, he prepares himself mentally to lead the life of a blind man.

Emotional Reaction to Permanent Blindness in One Eye

After the initial emotional crisis has abated few one-eyed men recover their emotional balance completely. Of 61 men in this series who were seen at a time when they had passed beyond their early mood fluctuations, only 9 were in no way or but little emotionally perturbed by their disability. Among these 9 were 5 unimaginative, stable dullards, not easily upset by anything. Five other men adopted an attitude of defiance towards their disability, mingled with a tendency to show off what they could do in spite of it. They soon learned to play games and to shoot from the shoulder corresponding to their good eye. The remaining 47 men showed evidence of understandable but irrational and therefore morbid fears concerning their social relationships, the future economic security of their dependants, and the possibility of further harm to themselves. Their reactions may be classified thus:

(*a*) Social Anxiety (26 Men)

Depressive.—An eye affection is quickly noticed. Children point at the one-eyed man and call him names. A well-meaning neighbour remarks on his hard luck and he is subjected to some good-natured chaffing. If his empty socket is still discharging he may be repugnant to some people, but if he has a well-fitting artificial eye he is neither greatly handicapped in his working efficiency nor particularly conspicuous in appearance. Rightly or wrongly, wearers of an artificial eye commonly believe that it is too big or too small, too

glaring, too sunken, or too protruding. To some the concealment formerly provided by an eyeshade was preferable to the imperfect camouflage of the artificial eye. They complain that the wiping of the eye invariably draws the attention of people and that to take the eye out in the presence of others is very embarrassing. In extreme cases the effect of their disability upon their relation to others becomes a main preoccupation. They dare not look anybody straight in the face. If they are addressed they get flustered. In the company of their friends they are not too uneasy, but to face a group of strangers fills them with terror. Repelled by their appearance, they say, people in a restaurant move away, get up, or walk out. At dances girls refuse to dance with them. Unable to stand their ordeal any longer, men of this group cut themselves off from their social contacts. "I don't fit in," they say; or "I am out of the picture and not wanted."

Resentful.—Another group of men, instead of worrying inwardly and evading contact with a world now believed to be hostile, react with active and vociferous resentment. Their social anxiety has been converted into a violent protest against society in which accusations and condemnations feature prominently. Some of them simply become bad-tempered and cantankerous and "flare up" at the slightest provocation. "Words come out of my mouth which I don't really mean," said one man. These men quarrel with their friends; they are no longer capable of "taking" a joke; they hit out furiously, but more in the metaphorical than in the physical sense. Some of them threaten to use violence, and a few actually do, and as they lose one friend after another through their vicious temper they gradually drift into social isolation. Men of this type are usually disgruntled about the employment given to them after their disablement. In their opinion one-eyed men should be specially catered for. If their work does not suit them they report sick or become troublesome, losing all interest in their job and making no bones about their desire to get out of it. They believe that they would be far better off in some other sphere of activity, but view their future with gloom and bitterness; yet one main interest remains—their determination to put up a fight for a pension.

(*b*) Anxiety over Dependants (10 Men)

A defect of the eye impairs a working-man's earning power. Certain occupations are barred to him and some firms are reluctant to employ him. Hence a certain number of married men are seriously concerned about the effect which the loss of an eye may have on the security of their dependants. Within justifiable limits, or going far beyond them, they are afraid that they will be unable to discharge their obligations towards their families.

Members of this group were diligent, conscientious, reliable, and persevering workers before their injury, efficient and of good morale. Perhaps after a hard struggle they had managed to build a reasonably secure livelihood for themselves and they had settled down to married life. At hospital they were anxious to leave at the earliest opportunity, and on return to their old environment they carried on to the best of their ability irrespective of whether they liked the job allotted to them or not. To all appearances they had changed very little. But if the conversation were allowed to flow freely they almost invariably revealed a dread of how they would get on in civilian life. The Army gives them financial security; but this is temporary, and the thought of leaving it is an ever-present worry. "I may not be able to support my wife after the fashion I would like to," said one of them; "will I be able to give my children as good an education as I intended to, in my present state of physical fitness? Will I be able to make the money to look after them? The whole future of my family depends on my eyes." Intent on preserving what earning capacity is left to him, a man of this type, whose greatest need is security, avoids all potential dangers to the remaining eye. He keeps out of sport, reads as little as possible, does not frequent the cinema any longer, and guards his eyesight jealously. The fear haunts him that the other eye may become affected, that he may go blind, and that if this should happen he will become useless.

(*c*) Self-centred, Self-pitying Anxiety (11 Men)

Complaints of headache, of difficulty over judging distances, of eye-strain, of photophobia, and of night-blindness are common in one-eyed men. Of these complaints, difficulty over judging distances close at hand is sufficiently explained by the nature of the defect, which, owing to the need for adaptation to monocular vision, also accounts for headaches and "eye-strain" within some six months of the disablement. There is no physiological reason for a continuation of such symptoms beyond this period. These complaints vary in intensity and in descriptive quality. According to the colourful accounts of some of the men such difficulties seem to incapacitate them more or less completely. Their headaches—described as "terrific" or "colossal"—come on whenever they attempt work. "Any close work is pretty hopeless"; "I have to feel for things before I pick them up"; "I can't distinguish between an insect near or a bird far away"; "The good eye becomes tired easily, smarts, and aches a lot"; "After half an hour's reading or writing it gets all mixed up"; "Sunlight is very dangerous to me," they say. If the sun is out they wear dark glasses or gaze on the ground. Another pair of spectacles is worn against the "harmful" effects of wind. They are "absolutely hopeless" in the dark and have to be led about. Without assistance they grope their way along or progress by feeling their way with one foot along the edge of the kerb.

In addition, most of these men are troubled by general complaints—dizziness, heart trouble, indigestion, and so on; they become easily fatigued, sleep badly, their memory has failed since the injury, and they are unable to concentrate on anything. Surely, they feel, anybody can see how ill they are, but no one will take it seriously. As in the previous type, but for different reasons, an all-pervading fear about further injury to themselves dominates their thoughts and actions. They have taken full flight into dependence and illness without even trying to take up the fight against their real external difficulties, which undoubtedly exist. Fear of going blind, so common in one-eyed men, assumes in them quite grotesque proportions. They do not go out during the daytime because the sun may do harm to their good eye, and they do not go out at night because they may bump into something. They do not play any games because the ball may hit them in the eye, and they do not read or go to the cinema because the strain may be too much for them. A little boy using a catapult or throwing a paper aeroplane up into the air frightens them out of their wits.

Factors Determining the Emotional Reaction

The type of emotional reaction to the loss of an eye is determined by three main factors: (1) previous personality; (2) nature of the disability; (3) nature of employment.

(1) *Previous Personality.*—Comparison between reaction types and previous personality types allows the following conclusions:

Minor or No Emotional Maladjustment.—A constructive-defiant attitude towards their disability, devoid of undue anxiety, was displayed by men of the conscientious personality type. Of those labelled as "resigned," only one had an eye excised.

Social Anxiety.—The depressive group is largely composed of men who have always been shy, self-conscious, and retiring, afraid of making themselves conspicuous and of being held up to ridicule (9 out of 14). They needed praise as a means of self-assurance and were easily snubbed. The advent of their disfiguring eye affection had tipped the balance of their emotional scales. Men who were *resentful* in their reaction derived from two different personality types, about evenly distributed. Prior to their eye affection they were either simple-minded, uneducated, blunt, outspoken, fond of drinking and gambling, and enjoyed a good "scrap," or they were intelligent, educated, and ambitious, and therefore bitterly disappointed in consequence of the frustrations imposed upon them by their disability. (The effect of uncongenial employment is dealt with below.)

Anxiety over Dependants.—With two exceptions, as already pointed out, this type of anxiety was found to occur in men with a severe—perhaps over-severe—sense of duty. They were hard workers, meticulous in attention to detail, sticklers for punctuality, and in general fully appreciative of their responsibilities and obligations. They had always kept an eye on the future, had saved some money for a rainy day, and had always been greatly concerned about their financial security and the security of those dear to them.

Self-centred, Self-pitying Anxiety.—Previous characteristics, such as over-dependence, timidity, and childish *amour propre*, may have foreshadowed their self-pitying reaction to their disability in four men of this group. The others did not conform to any specific type.

(2) *Nature of Disability.*—Comparison of the reaction types with the nature of the disability shows that the removal of an eye predominantly disturbs the social relationships of an individual, engendering social anxiety, whereas retention of the blind eye predominantly rouses anxiety over dependants and over further injury.

(3) *Nature of Employment.*—After discharge from hospital the one-eyed soldier proceeds to a convalescent depot, whence he is posted to a training depot. There, as a result of inevitable administrative delays, he remains for several weeks until his disposal has been decided. He is then posted to a unit where again, quite often for a period of several weeks, little use is made of him. To keep him busy he is usually employed on fatigues and odd jobs, and by the time the nature of his employment has been finally settled his morale is apt to be low. On the other hand, if the new job is to his liking his morale improves. Some men, however, are frequently moved either within their own unit or between different units because a suitable job is not readily available, or because of their constant refusal to undertake duties for which they feel themselves

unfit, which necessitates frequent changes and makes their "placement" difficult.

Of 61 men who had been blind in one eye for at least six months, 37 had been back on unit duty for at least three months, 15 had their eye defect before enlistment, and 9 were still under medical care at the time of their examination or had gone back to duty for a period of less than three months.

TABLE I.—*Army Employment of 37 Men who had gone back to Duty for at least Three Months after Disablement*

	Army Employment	
	Before Disablement	After Disablement
Combatant	25	—
Home defence	4	3
Administrative	5	11
Tradesmen	2	3
Domestic and labouring ..	1	20

(*a*) *Type of Army Employment.*—Table I shows the changes in Army employment of the 37 men who had gone back to duty for at least three months after their disablement. More than half of them had been transferred from higher qualified duties to domestic and labouring duties. A small proportion were employed on administrative duties—e.g., supervisory duties for N.C.O.s, clerical duties, and regimental police duties. Of the 3 men on home defence duties, one was employed in bomb disposal and two on A.A. sites. Despite their disability, 3 men were capable of carrying on satisfactorily their previous skilled work as tradesmen (two fitters, one painter and decorator).

(*b*) *Job Satisfaction.*—Of the 37 men 30 had been of good morale previous to their disablement or had at least "made the best of a bad job"; 7 had been disgruntled soldiers. Leaving the latter out, 16 of the remaining 30 were satisfied and 14 were dissatisfied with their new type of employment.

TABLE II.—*Job Satisfaction of 30 Men*

	Satisfied Before Injury	Dissatisfied After Injury	Satisfied Before Injury	Satisfied After Injury
Combatant	10	—	10	—
Home defence	3	1	1	2
Administrative	1	1	3	8
Tradesmen	—	—	2	3
Domestic and labouring ..	—	12	—	3
Totals	14		16	

Table II demonstrates that retention in former jobs or transfer to administrative jobs makes for job satisfaction and probably efficiency, whereas transfer from combatant duties to menial tasks causes a good deal of discontent.

(*c*) *Military Efficiency: Job Suitability.*—To obtain evidence on the military efficiency of one-eyed men, executive officers were requested to give an estimate of the military efficiency of such men under their charge: 70 replies were received. This group comprises men psychiatrically examined and others inaccessible for geographical reasons. The results of the inquiry are given in Table III.

TABLE III.—*Military Efficiency and Job Suitability (70 Men)*

	Outstanding	Very High	Competent	Passable	Not up to Standard	Total
Combatant	—	1	—	—	—	1
Home defence	—	2	1	4	1	8
Administrative	1	8	12	3	—	24
Tradesmen	—	7	2	—	—	9
Domestic and labouring	—	4	14	8	2	28

Table III shows that 23 of the 70 men were rated as very highly efficient and 18 as passable or below standard. Men on administrative duties and tradesmen did very well, whereas a fair proportion of men on home defence duties and of men on domestic and labouring duties were rated as of low efficiency.

Low efficiency in men on domestic and labouring duties may be due to two factors: either men of poor quality may be employed in these duties because they are not suited for anything better, or, as suggested by the evidence of the interviews, more commonly men suited for something better may be erroneously employed on menial tasks. Resentment over employment below their level then leads to inefficiency. It is to be noted that favourable "competence" reports do not necessarily indicate right employment. A man of good intelligence may be first-rate, for example, on salvage duties and yet he may be utterly dissatisfied and his talents definitely wasted.

Practical Conclusions

The psychological effect of the loss of an eye is out of proportion to the actual physical disability. Of the series examined 78% showed abnormal psychological reactions. A functional overlay was found in 100% of monocular personnel recently examined by two Service ophthalmologists (Campbell and Cross, 1944), and the present study confirms the conclusion that men who have lost an eye struggle against social prejudices and against emotional difficulties within themselves.

Numerous instances can be quoted of one-eyed men with outstanding achievements in the past and in the contemporary history. On the other hand, the term "one-eyed" is used in a derogatory sense, and characters supposed to be cruel, fierce, or crooks have been depicted as one-eyed since time immemorial. Moreover, the social fact remains that the efficiency of monocular personnel is frequently underrated in the Services and in industry. Like other disfigured men, one-eyed men are frequently over-concerned about their appearance, with the result that sensitive individuals sometimes shun social contacts. Employment in a low type of work aggravates the blow to their personal pride and leads not infrequently to violent resentment.

Fear of blindness is so deeply rooted in every individual that the loss of one eye commonly causes undue ocular awareness of the remaining good eye. A man who loses one arm never considers the possibility of losing the other, but monocular individuals are unreasonably preoccupied by the possibility of total blindness. This ocular awareness accounts for symptoms referred to the good eye frequently complained of by monocular personnel—e.g., eye-ache, eye-strain, photophobia, night-blindness. These functional symptoms rather than the actual defect are responsible for the impairment in the one-eyed man's working efficiency. Allied exaggerated fears in monocular personnel concern the possibility of further harm to themselves and the threat to the economic security of their dependants.

The adequate treatment of such ophthalmic cases is therefore by no means completed with medical attention to the eye.

Treatment at Hospital.—Handling by the medical and nursing staffs should be encouraging but very matter-of-fact. Whenever it is possible the ophthalmologist should reassure the patient firmly and unmistakably that the risk of the other eye becoming affected is remote. The nature of the relations between the doctor and the patient will largely determine how far the patient may believe and accept such reassurance. For this reason over-emphasis may defeat its own ends. Emphasis should be laid on the wide scope in life for the one-eyed person. The problem of social reaction to disfigurement should be tactfully but clearly raised. These first steps in social adaptation can be made convincing by the provision within the hospital of social contacts so that the patient can see for himself that loss of an eye does not necessarily debar a man from society. Partly with the intention of producing comfort and hygiene of the socket, and partly to stimulate self-confidence, the utmost care should be taken that the first artificial eye is well-fitting and good-looking: the patient should preferably not be returned to his old contacts in the outside world until this is ensured.

Treatment in Convalescence.—The stay in hospital of patients who have lost an eye is usually short. To save man-power and to avoid a good deal of unhappiness, it would be well worth while to consider the idea of establishing special facilities for the rehabilitation of ophthalmic cases before they re-enter the industrial field. The ideal would perhaps be that such a unit should form an integral part of a larger unit so that the eye patients could compare their own relatively small disability with those of others more seriously handicapped. This unit should be staffed by an ophthalmologist, an industrial psychologist, and a psychiatrist, who, in collaboration, could assess their patients' abilities and disabilities, could complete their physical and mental readjustment, and could arrange their placement in industry. An additional task for this team might also be to evaluate which jobs are well suited and which are ill suited for monocular personnel. To accomplish full and rapid rehabilitation of one-eyed soldiers P. Duke-Elder and Davenport (1942) found that "rapid restoration of physical fitness, training to compensate for the loss of binocular vision and to readjust the faculty of orientation, and measures to overcome

the psychological distress of mutilation are essential. In those who are fit these ends are attained by physical training exercises in which, in addition to toning up the system generally, special attention is paid to re-educating the sense of equilibrium and the judgment of distances by means of parallel bars, jumping, and balancing exercises; this is implemented by organized games out of doors, particularly ball games, which are rapidly stepped up in speed, and organized indoor games such as ping-pong and billiards. The more sedentary part of the day is spent in occupational therapy; this can be of great value, the best results being obtained by weaving on a big loom and the performance of other tasks involving rapid and fine co-ordination between eye and hand."

Position in Industry.—The position of one-eyed workers in industry varies a great deal. Some firms employ one-eyed men with good success. They prove themselves efficient at most jobs, even in the metal and engineering trades. Their accident record is good; in fact, they are less prone to accident than normal-sighted persons, possibly because they are more careful. A large number of engineering firms send the one-eyed workers back to their old jobs of grinding, turning, or drilling, wherein they are invariably found to be competent, be they young or middle-aged. Other firms refuse to put the men back on the old job, arguing that it is dangerous for them to do work in the tool-room or the engine-room. They therefore put the one-eyed workers on the more menial tasks, as in the store-room or the yard. A great number of firms require applicants to pass an eyesight test and do not employ one-eyed workers at all, so that the difficulties of the one-eyed workers increase when they lose their original employment. The inevitable result is that many of them drift into other occupations which involve a loss to their wage-earning capacity, to their self-respect, and to their social value to the community. In view of the number of one-eyed men discharged from the Services after the war, measures should undoubtedly be taken to improve their occupational prospects, and propaganda instituted to impress on public and private employers their negligible loss of efficiency in most vocations.

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OCCURRENCE OF A FLAGELLATE IN THE SPUTUM OF A CASE OF BRONCHIECTASIS

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It is generally recognized that only one flagellate normally lives in the mouth of man and that it is correctly assigned to the genus *Trichomonas* Donne. It was discovered and originally named *Cercaria tenax* in 1773 by O. F. Muller (*Trichomonas tenax*). Gros (1849) described an amoeba parasitic in the human mouth and named it *Amoeba gingivalis*. This was amended to *Entamoeba gingivalis* by Brumpt (1910). Tibaldi (1920) described *Entamoeba macrohyalina* from the tonsil, which is probably the same. Knowles and Gupta (1924) published an account of a bodo (? *Bodo edax* Klebs), found to be a temporary resident in the human mouth, which was similar to that often occurring in water, urine, and faeces. From time to time, also, accounts have been published of protozoa found in the human lung. For example, in 1892, under the title of *Cercomonas*—formerly employed by medical writers as a general term for any flagellates of the human intestine—a flagellate was described by Streng in the sputum and in putrid expectorations in gangrene of the lung. Leyden and Jaffe (1867) observed infusoria in the putrid sputum of persons suffering from gangrene of the lung and putrid bronchitis. Parisot and Simonin (1921) found what they identified as *Trichomonas hominis* (presumably *Trichomonas tenax*) in the pus from the cavity and in Dittrich's plugs in the sputum of a case of gangrene of the lung in life and directly after death.

Artault (1898) described under the term *Amoeba pulmonalis* a few amoeboid formations with a nucleus and vacuole in the contents of the lung cavern, distinguishable with difficulty from leucocytes. Brumpt (1910) refers to these as *Entamoeba pulmonalis*, and both he and Wenyon state that if they are amoebae, which is not at all clear, they are probably identical with *E. gingivalis*.

Previously it had not been our experience to find protozoa in respiratory secretions in such numbers as to excite attention. In the case described below the sputum of the patient swarmed with flagellates—a condition which may be of enough interest to merit recording. The details are as follows.

Summary of the Case

The patient, an Indian male aged 23, was admitted to hospital with a history of fever and rigors. Blood examinations showed the presence of *Plasmodium falciparum* and *P. vivax*. In spite of the usual antimalarial treatment his pyrexia continued and increased. He started to expectorate a considerable amount of foul-smelling sputum, which separated into three layers on standing. His respirations were laboured, and numerous crepitations were to be heard over the bases of both lungs. A lung abscess was diagnosed on Oct. 26, 1943—a fortnight after admission. Sulphonamide therapy was begun the following day, resulting in a rapid decline of his pyrexia; but it was without effect on his respiratory distress or the quantity and character of the sputum. The first specimen of sputum was received in the laboratory on Oct. 29, and when examined showed the presence of numerous flagellates and spirochaetes in addition to the customary fauna. In the case of subsequent specimens precautions were taken to avoid any risk of extraneous contamination. Examination of the sputum on four successive days revealed the persistence of these organisms. Gradually they became less numerous, and on the sixth day of the administration of sulphapyridine they had entirely disappeared. The patient, now apyrexial, worsened, and died on Nov. 12, 1943. Necropsy showed that both lungs were considerably fibrosed, with numerous irregularly shaped cavities filled with a foul-smelling gelatinous secretion. The general picture was that of long-standing bronchiectasis of the cylindrical variety. This was borne out by histological examination of the lung tissue.

Morphology of the Flagellate.—An attempt was made to ascertain the structure of the flagellate with a view to classification, but with only limited success. The flagellate, a pear-shaped organism, measured 10–15 μ in length and 5–7 μ at its broadest point. At the narrowed anterior end it possessed two equal and anteriorly directed flagella about 10 μ in length. The flagellate showed great variation in shape, and in that respect appeared almost amoeboid in character. Frequently the posterior end became narrowed and elongated to form a caudal process. Progression, though mainly flagellar, appeared at times to be maintained by a combination of flagellar and amoeboid movements. If mucus was present there was a tendency to burrow through it rather than to avoid it. Posteriorly, vacuoles could be seen containing masses of debris, bacteria, and spirochaetes. Sometimes collections of debris, etc., could be seen adhering to the caudal process (cp. Jepps, 1923; Kofoid and Swezy, 1924: *Entamoeba gingivalis*). The nucleus was not evident in the unstained flagellate, but with Leishman's stain, and also with a combination of eosin and iodine, it was possible to make out the anteriorly situated nucleus. Iron-haematoxylin staining was attempted, but the first few preparations were not satisfactory, and unfortunately the flagellate died out before suitable preparations could be obtained. For the same reasons other means of investigation have not been carried out.

Discussion

There is little reason to doubt that the flagellates described above are nothing more than commensals living saprophytically on the decaying contents in the bronchiectatic cavity, and have apparently no pathological significance. It is of interest, however, to note that only the cases mentioned above have so far been recorded.

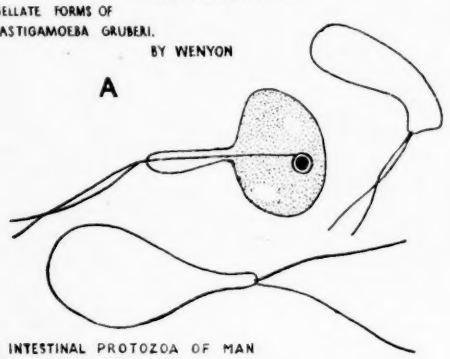
Two questions arise: first, what these protozoa were, and, secondly, how they obtained access to the lung.

Identity of the Protozoa.—From the examination of the dark-ground smears it was seen that they were either a *Trichomonas*—probably *tenax*—or *Dimastigamoeba gruberi*. Reference has previously been made to *Trichomonas tenax*. The following is a brief history of *Dimastigamoeba gruberi*. The family of

Dimastigamoeba includes the amoebae, which are able in certain conditions to develop flagella and behave as flagellates. Schardinger (1899) isolated one of these from human faeces and named it *Amoeba gruberi*. From time to time similar amoebae developing flagella have been isolated and given various names by workers (Wasielewski and Hirschfield (1910), *A. limax*; Alexeieff (1912), *A. punctata*; Martin and Lewin (1914), *Vahlkampfia soli*), and it is probable that they all belong to the same species. This species has since been shown to occur commonly in the soil and water and to be of the genus *Dimastigamoeba*, founded by Blockman in 1894. This Rhizopoda illustrates very clearly a close relationship with the Mastigophora, and could well be so classified. Wenyon (1926) describes the appearance of *Dimastigamoeba gruberi*. He states that on solid or liquid media the organism remains in the amoeboid state, but that if a sudden change is made—if, for example, a scraping from an agar plate is mixed with two or three drops of water—then in two or three hours an enormous number of flagellates appear, which after about 24 hours return to their amoeboid or cystic forms. When flagellation is complete the organism becomes pear-shaped, the more pointed end bearing the flagella. The nucleus normally approaches this end of the body, but may be at the thickened end. There is a slight cytostome, and two blepharoplasts from which the flagella arise. A contractile vacuole is generally present in the thickened part of the body. The length varies from 10 to 30 μ. (See Diagrams 1 and 2.)

DIAGRAM 1

FLAGELLATE FORMS OF DIMASTIGAMOEBA GRUBERI. BY WENYON



THE INTESTINAL PROTOZOA OF MAN THE FLAGELLATE FORM OF DIMASTIGAMOEBA GRUBERI. BY DOBELL & O'CONNOR

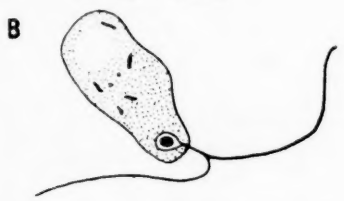
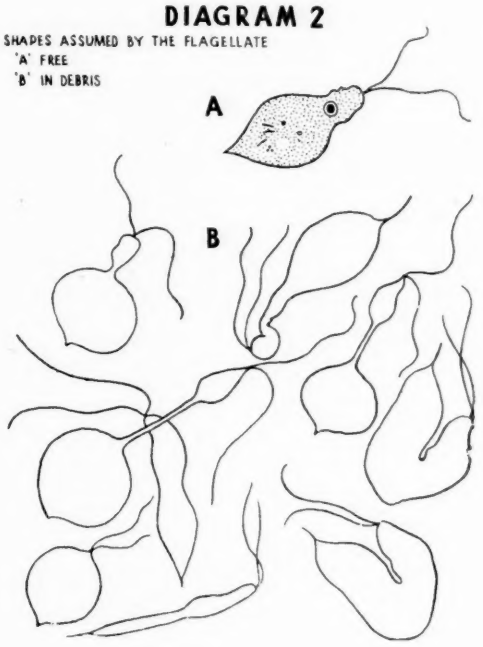


DIAGRAM 2

SHAPES ASSUMED BY THE FLAGELLATE 'A' FREE 'B' IN DEBRIS



They are perhaps the commonest of free-living amoebae, and occur in soil and water everywhere.

In the present case it is probable that only amoeboid forms were present in the lung. After death the bronchiectatic cavities were searched for flagellates, but these were not found. At the time it was thought that they had been destroyed by the course of sulphapyridine, but, if these were *Dimastigamoeba gruberi*, another point must be considered—that is, that after death the protozoa were present only in the encystic or precystic form, and were not recognized, as we had not then considered the possibility of a *Dimastigamoeba gruberi* infestation. Before death, however, the amoebae in the mucopurulent material, on being coughed up from the cavities, became mixed with thin bronchial secretions and saliva. This change of medium, temperature, etc., probably caused them to become flagellates. At this time they were found in abundance in the sputum, but after this had stood for several hours they were no longer present. This would fit in with the change that normally takes place in the flagellate form of *Dimastigamoeba gruberi*, which always reverts back to the amoebic or cystic state after some hours.

Access of Protozoa to the Lung.—Protozoa may reach the lung from (*a*) the buccal cavity, (*b*) the intestine, (*c*) the blood stream.

(*a*) *From the Buccal Cavity.*—It is conceivable that the flagellate might have originally been an inhabitant of the mouth and then passed into the lung, as, presumably, in the case of *Trichomonas tenax* and *Entamoeba gingivalis* described above; but it is interesting to note that *Dimastigamoeba gruberi* has never been observed as a mouth commensal, nor were the flagellates found in the saliva when this did not contain the mucopurulent matter coughed up from the lungs. Minute animalcula could also be inhaled direct into the lung through the mouth, but a more feasible explanation may be obtained from a consideration of the mechanism of expectoration. Thus organisms taken into the mouth by food or water or inhalation may temporarily inhabit the buccal cavity, perhaps in the encysted form. A patient in a weakened toxic condition brought about by chronic invalidism may not at times have the adequate propulsive force to ejaculate completely a large mass of viscid mucopurulent sputum from the trachea into the buccal cavity. In these circumstances part of the sputum may momentarily pass through the epiglottis and by nature of its elasticity and weight be retracted back into the trachea. To carry the speculation a stage further, the sputum may descend by force of gravity back into the bronchiectatic cavity, taking with it organisms from the pharynx.

(*b*) *From the Intestine.*—Unless this was by the blood stream (see below) or by the laryngopharynx, it was ruled out by the necropsy, which showed no direct connexion between the intestine and the lung.

(*c*) *By the Blood Stream.*—This route cannot be ruled out entirely, as Knowles, Acton, and Gupta (1929) refer to an *Enteromonas* and an *Octomitus* which had penetrated the wall of the gut and reached the blood stream. They also found *Trichomonas hominis* from films of the spleen and liver of the white rat. In none of these cases were any macroscopic injuries found in the gut wall, but it is important to note that these were all post-mortem findings.

Summary

A flagellate was found in the sputum of a case of bronchiectasis in an Indian male aged 23.

This was shown to assume a great variety of shapes and to progress by a combination of amoeboid and flagellar movements.

It was pear-shaped, 10–15 μ in length, with two equal flagella at the narrow end.

It is considered that this was either *Trichomonas tenax* or the flagellate stage of *Dimastigamoeba gruberi*, which had entered the

lungs by the mouth and had there found in the mucopurulent material of the bronchiectatic cavities an ideal medium, in which it had multiplied rapidly.

Various modes of entry are considered.

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ABACTERIAL PYURIA

BY

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Abacterial pyuria is a designation applied to a group of cases which present a characteristic clinical picture and give a magical response to correct and adequate therapy, but the aetiology of which is still unknown. The recent article on the subject by Donovan (1945) has revived interest in a disease which, as he says, appears to be not sufficiently known to medical men as a whole. The two cases here described, which occurred in my practice a few years ago, may prove of interest.

Case I

Mrs. C., Irish, aged 33, 3-para, complained of frequent and painful micturition and terminal scalding but no haematuria. There was no fever or any constitutional disturbance. Duration, eight months. She had arrived in Nigeria twelve months previously to join her husband. Some eight weeks previously she had been admitted to a colonial hospital, where she stayed about one month, and had had a fairly thorough urological examination and treatment, but with only moderate relief. The medical officer who had treated her confirmed that she had had a full examination, including a microscopical and bacteriological investigation of the urine, which showed pus but no tubercle bacilli. A few bacilli belonging to the *B. proteus* group had been suspected. The treatment given was the one for cystitis, including the use of a sulphonamide preparation. *B. proteus* disappeared from the urine, but the general relief obtained was only mild. She was discharged from hospital, and proceeded to another station to join her husband. There, four weeks later, her symptoms recurred with tormenting severity, and I was called in.

Examination.—The patient was a highly intelligent woman, and she narrated her history with precision and clarity. Her condition was good: no abnormality was found in the general system. A catheter specimen of the urine was reported upon as follows: "Reaction, faintly alkaline; appearance, hazy. Albumin, trace; pus, ++; blood cells, +; vesical epithelial cells, ++; tubercle bacilli, negative; ova, terminal-spined, of *Schistosoma haematobium*, negative." Cystoscopy and other specialized forms of urological examination were not performed owing to lack of facilities.

Treatment given consisted of restriction of diet, abundant bland fluids orally, alternate three-days administration of acid and alkaline mixtures containing large doses of hyoscyamus, hot applications to lower abdomen, hot enemata, and hot hip-baths. Sulphapyridine was also used. The result was only slight relief. At my wits' end, I referred the patient back to the colonial hospital where she had formerly received treatment, and from there she was invalided home in order to receive further treatment.

Case II

Mrs. A., a Nigerian aged 22, 1-para, was seen in Feb., 1940, six months after Case I. Amenorrhoea had been present for 18 weeks. She complained of severe hypogastric and perineal pain, a frequent desire to micturate, and agonizing pain over the bladder during micturition. Haematuria occurred thrice, including an occasion in the hospital. The duration of the condition was 12 months. Dysuria was occasionally so severe that the patient would roll on the ground in agony.

Examination.—The patient's general condition was good. Pelvic investigation confirmed pregnancy and its duration, and negatived a retroversion of the gravid uterus. Prolapse, tender caruncle, and vulvitis were absent. There was no Neisserian infection. Fever and rigors were not present. The laboratory report on the urine was as follows: Cloudy; reaction, alkaline; no albumin; pus, ++; blood cells, ++; epithelial cells, ++. No organism in film. Repeated examination for ova of the tropical parasitic trematode *Schistosoma haematobium* was negative. Cystoscopy was not done.

Treatment was given as in Case I, including the intramuscular administration, thrice weekly, of anthiomaline, in spite of the negative laboratory report of schistosome infection. There was no relief after three weeks' intensive treatment.

At this juncture an issue of the *B.M.J.* (Feb. 3, 1940) arrived by ocean mail; and on glancing through it I was struck by the curious title of an article—"Abacterial Pyuria," by Mr. Thomas Moore. I read the article through at once, and found that the symptoms and signs shown by my present and previous cases were identical with those of the case reported in Moore's instructive paper. That day I administered N.A.B. 0.3 g. intravenously. The result was almost magical. The following day there was a remission of all the symptoms. It seemed too good to be true, but it was true. I gave altogether four N.A.B. injections intravenously—twice weekly for two weeks. The first dose was 0.3 g., but other doses were 0.45 g. each. A few months later, at full term, the woman was normally delivered of a healthy male child.

I saw the patient again, early in 1945, when she reported complete freedom from the complaint since her treatment.

Commentary

The two cases here reported occurred in Nigeria; both were women—one a European, the other an African. Both were parous, one being actually pregnant when first seen and tracing the onset of her symptoms to some time before the pregnancy. The symptoms in both women were severe, but it would appear as if the severity was greater in the pregnant one. This might have been due to the heavy, rising, anteflexed uterus pressing somewhat on the inflamed bladder.

Sex Incidence.—The series of cases under discussion would appear to support Moore's statement that the disease is more common in men. His case, reported in 1940, occurred in 1939 in an unmarried woman. The two cases described above occurred in women both of whom were married and parous. Donovan's five cases reported recently were in men, and he was constrained to remark, "I have not met with the condition in the female."

Age Incidence.—In Moore's case the woman was 52 years old when first seen. The ages of my two patients were 33 and 22 years. The ages of Donovan's five cases ranged between 35 and 52 years. The series of cases under discussion is obviously too small to work upon, but it would seem to show that the condition is found between the ages of 22 and 52 years, and that persons in the fourth, fifth, and sixth decades of life are more prone to attack. In the present combined series three cases occurred in the fourth decade (33, 35, and 40), three occurred in the sixth decade (51, 52, and 52), and two in the fifth decade (49 and 50).

It is significant that no case below the age of 20 years has been recorded. The greatest incidence in this series occurred during that period of life when the urethro-vesical area is perhaps more exposed to various forms of physical and organismal traumata, and when there is often some amount of retention of urine in the bladder—either voluntary or pathological—leading to congestion of the bladder mucosa and predisposing to microbic attack.

Facilities for cystoscopy, excretion urography, ureteric catheterization, and guinea-pig inoculation may not be available, but a thorough *urine* examination should always be done. The reaction of the urine may be neutral, alkaline, or acid. It should be remembered that "an acid urine implies infection with the *B. coli*, *B. tuberculosis*, or the gonococcus" (Beaumont, 1937). In the two cases under review the urine was cloudy in appearance and alkaline in reaction. The two-glass test is often helpful. It was carried out in Case II only, and both glasses were equally cloudy.

One important point is to determine the presence or absence of *tubercle bacilli*. The organisms must be carefully looked for in the urine. This is done by centrifuging and staining a 24-hours specimen of the urine. In a case of urinary tuberculosis the organisms are nearly always present, but repeated

examination and the use of the guinea-pig may at times be necessary. Pus, blood cells, and vesical epithelial cells are usually present in the urine. In the Tropics schistosome eggs must be sought for in the urine, for blood and pus may accompany painful micturition in bilharzial disease.

The prognosis in abacterial pyuria appears to be quite good. No mortality has been reported. In one of my two cases the patient was still free from symptoms five years after treatment.

The aetiology of the condition is unknown, and is merely speculative. Moore and Donovan favour the virus theory. Lydon (1945), however, stated that he had "had the opportunity of having several slides stained and examined by experts in virus work, but with negative results."

In regard to treatment, it is noteworthy that intense sulphonamide therapy brought no relief in either case, nor in Donovan's cases. Anthiomaline, which was used in Case II, had no influence on the disease.

The introduction of prontosil caused a startling fall in the mortality from haemolytic streptococcal infections. This gratifying result led to the trial of the preparation in affections due to organisms belonging to the same group—the gonococcus, meningococcus, etc. The result was also satisfactory. Further research work yielded compounds (the sulphonamides), derivatives of prontosil, possessing a greater potency and efficacy. These compounds had a curative effect on the same types of micro-organisms. In other words, a certain preparation destroyed or restrained the activity of a microbe which belonged to a group of organisms having certain characteristics in common. It was reasoned that as that preparation destroyed or inactivated the one organism it was likely to do so with the others of the same group. And to a great extent that was what happened. Now, N.A.B. has a high therapeutic index in syphilis, yaws, rat-bite fever, relapsing fever (louse-borne and tick-borne), Vincent's angina, etc. These diseases are caused by microbes of the spirochaete group. N.A.B. causes a similar rapid disappearance of symptoms and signs in abacterial pyuria.

Spirochaetes as a rule are rapidly destroyed by the administration of arsenic, and it is practically true that, in the present state of our knowledge, there is no other group of micro-organisms so readily and rapidly destroyed or inactivated by N.A.B. or any other similar arsenical preparation as the spirochaetal group.

The certainty of cure, by N.A.B., of abacterial pyuria, and particularly the rapidity and completeness of the cure—just as obtains in those affections caused by spirochaetes—would lead one to suppose that an organism particularly susceptible to an arsenic compound was concerned in its causation, and that the organism probably possessed similar biological characteristics to those of the group concerned in the aetiology of syphilis, yaws, etc. It may not be amiss, therefore, to postulate that the cause of abacterial pyuria is an organism pertaining to the spirochaete group, which organism has so far eluded capture owing probably to a slight morphological peculiarity. The result of a Wassermann test in this disease would be of particular interest.

The mode of infection of the causative organism, whatever it may be, is also speculative. Direct contact is possible. The husbands of the two women whose cases are here reported declared that they had not at any time suffered like their wives, and they actually appeared to be in good health. I examined the husband of Case II for evidence of specific or Neisserian infection, with negative result, but the man admitted a previous gonococcal infection which had received proper treatment. These facts prove very little, for a detailed urine examination or a serological test of the men had not been made. It was possible that an organism in an attenuated form had been present in the men, and had, under favourable conditions, in the women incidentally assumed a pathogenic character.

The causative organism of abacterial pyuria may be a virus. This is an open question. But it is significant that there is no virus disease which has yet been shown to benefit by N.A.B. or any other known preparation of arsenic. Poradenitis, variola, vaccinia, varicella, morbilli, etc., are virus diseases. They are not influenced by N.A.B., which has a magical effect in abacterial pyuria; but the sulphonamides, which do not benefit abacterial pyuria, often exert a favourable influence in virus infections.

One other point. There is a clinical entity known as Hunner's ulcer. It is also sometimes called submucous ulcer of the bladder, or referred to as intramural cystitis. The ulcer, if ulcer it may be called, is situated mainly in the submucous and muscular coats, and there is often little to see on cystoscopy except a bleeding pin-point spot (Bailey and Love, 1938). The clinical feature of this disease and the pathological changes in the bladder are practically identical with those found in abacterial pyuria. In either the aetiology is not known. The treatment of Hunner's ulcer is difficult and may require surgical intervention. I do not know if N.A.B. or any substance closely resembling it has ever been tried. The result of a Kahn or Wasserman test in both conditions should prove of interest.

Are both conditions—abacterial pyuria and Hunner's ulcer—one and the same disease?

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TWO CASES OF AMOEBIC GRANULOMA

BY

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Amoebic dysentery with frequent relapses is one of the commonest causes of repatriation, on medical grounds, of Service personnel from the Eastern theatre of war. Amoeboma is an infrequent complication of amoebiasis that may be mistaken for neoplasm. There seems to be no reason why such cases should not be met with in Britain in the post-war years.

Before this war, case reports of amoebic granulomata appear to have been comparatively few in the English language. Zachary Cope (1920) refers to cases in which amoebiasis was mistaken for carcinoma. In 1931 Gunn and Howard, in reporting three cases of amoebic granuloma, were able to find only six previous references in the literature. They pointed out that the signs and symptoms may be identical with those of neoplasm. The pre-operative diagnoses of their cases were: (1) carcinoma of the transverse colon in a man aged 37; (2) carcinoma of the caecum in a man also aged 37; and (3) carcinoma of the colon in a man aged 41. Two of these patients died as a direct result of operation. Two of the cases were due to war service over-seas, one of these occurring as many as twelve years after return to the homeland. Yeomans (1936) describes a case of amoeboma occurring in the rectum and another case simulating carcinoma of the colon. He emphasizes that radical treatment by surgery is almost invariably fatal without anti-amoebic treatment. Naunton Morgan (1944) describes a case of amoeboma disappearing after a month's treatment.

Case 1

The patient, an Indian sepoy aged 27, was admitted to the V.D. ward of an Indian military hospital as a case of syphilitic condyloma of the anus. He gave a history of having a penile sore eighteen months previously; this had been diagnosed as syphilitic. Routine treatment had been started, but, after eight or nine injections of neoarsphenamine and bismuth, treatment had been allowed to lapse. He had had the present symptoms of a "growth" in the anal region for two months before reporting it. He had also had several previous attacks of malaria and dysentery, but none within the last two years.

On examination there was a warty-looking mass extending for about an inch (2.5 cm.) around the anal margin. The surface was irregular, reddish in colour, and exuded a thin discharge. There was no thickening of surrounding tissue, and the anal margin itself was not involved. General examination revealed only the scar of the old penile sore and some degree of anaemia. The Wassermann reaction was positive on three occasions. Examination of the discharge for *Treponema pallidum* was positive. Antisyphilitic treatment was begun.

After a complete first course of treatment the condition was slowly worsening. The surface of the mass was breaking down and the whole was gradually extending both outwards and inwards, so as to involve the anal margin. Just after the beginning of his second course of treatment the patient was sent to see a surgeon, who reported that there was a large infiltrating mass involving the anal

canal and that the condition seemed likely to be carcinoma of the anus. Biopsy was done immediately and the pathologist reported an inflammatory condition with no evidence of neoplasm. Swabs taken from the surface at this time showed a heavy mixed bacterial infection of the mass.

The patient was seen by a physician, who suggested the possibility of amoebic granuloma. Further examinations of the discharge and stools were made, with negative results. Despite this, treatment was started with 1-gr. (65 mg.) emetine hydrochloride injections daily. After the fifth injection the mass began to retrogress rapidly, and by the tenth day it was dry and half its original size. After 10 gr. (0.65 g.) had been given the emetine was discontinued. In three weeks healing was almost complete. Re-examination a month later showed no evidence of the disease.

Case 2

This patient, a merchant seaman aged 36, complained of an anal tumour of a month's duration. The tumour had first been noticed as a small protuberance from the anus which the patient had thought to be a haemorrhoid. His attempts to replace it had resulted in considerable trauma and bleeding. After this, he stated, the tumour had remained stationary in size for eight or nine days; since then it had grown rapidly. He gave a history of many attacks of dysentery, the most recent being three months previously. He had no symptoms of dysentery at present, but was liable to relapses at any time.

On examination there was a raised mass about an inch and a half by one inch (40 mm. by 25 mm.) involving the posterior anal margin and spreading backwards. The mass was hard, grey, not tender, and had an ulcer crater exuding a dark thin pus. Examination of the pus revealed numbers of active amoebae. Several examinations of stool showed no amoebae, but cysts were found on each occasion.

Treatment was carried out as in Case 1, and results were equally successful and rapid.

Discussion

The situation of the tumour in the two cases is unusual, the most often recorded region for amoeboma being the colon. It is interesting to note the pre-existence of local tissue damage in each case—in Case 1 a syphilitic lesion, and in Case 2 a probable trauma. The response to treatment was in both cases excellent, but it is not always so. Naunton Morgan states that the results of anti-amoebic treatment depend on the duration of the tumour and the resultant degree of fibrosis. Reed and Geiger (1943) state that "operations involving the gastro-intestinal tract, when amoebic lesions are present untreated, are likely to prove fatal." They also state that carcinoma is among the sequelae.

The difficulty of diagnosis if cases should occur in this country is obvious. The history of oversea service or amoebic dysentery is essential to the diagnosis, for unless this is obtained it is improbable that investigations for signs of amoebiasis would be made. Naunton Morgan points out a pitfall in the diagnosis: carcinoma and amoeboma may coexist.

Summary

Two cases of amoebic granuloma—an infrequent complication of amoebiasis—are described. Both cases responded well to anti-amoebic treatment. The possibilities of misdiagnosis as neoplasm are emphasized. Amoeboma may occur years after the last recognized attack of dysentery.

My thanks are due to Lieut.-Col. R. L. Haviland-Minchin, I.M.S., for diagnosis of the first case and for much helpful information.

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U.F.A.W. (the Universities Federation for Animal Welfare) has issued a new prospectus from 284, Regent's Park Road, Finchley, N.3. In spite of the bombing of its office and the death of the secretary it appears to have made considerable progress during the war, and has attained to a recognized position in the scientific world. The new president is Prof. Edward Hindle, F.R.S., and the vice-presidents include seven Fellows of the Royal Society and three Members of Parliament for universities.

CRUSH SYNDROME AND PLASMA JAUNDICE IN PREGNANCY

BY

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Both crush syndrome and serum jaundice are conditions which only recently have they come into the limelight. They occurred together in the case reported below and failed to interfere with an early pregnancy.

Case History

The patient, a 21-year-old primigravida in the third month of pregnancy, was admitted to this hospital on New Year's Day, 1945, after being buried under masonry for 12 hours when her home was blasted by a rocket. On admission she was cold and shocked, with a blood pressure of 80/50 mm. Hg and a rapid and thin pulse (130). Bruises and abrasions were found all over the body and limbs. In addition the right ear and left labium majus were oedematous and tender. There was no bony injury anywhere, but the patient was unable to feel or to move her left foot and toes (which had been caught under a beam), and both the plantar and dorsal aspects showed dry indurated areas. These had a leathery feel, and the skin was adherent to the underlying tissues. A little later an attempt was made to mobilize the skin in these areas so as to increase its blood supply.

Immediately after admission to a warm bed she was given 1/4 gr. (16 mg.) of morphine and an intravenous drip of plasma was set up. By the evening the pulse rate was 148, temperature 99°, and the general condition unchanged. No urine had been passed, and at 3 a.m. on the following morning 6 oz. (170 c.cm.) of deeply blood-stained urine was obtained on catheterization. Restlessness during the night necessitated a further injection of 1/4 gr. of morphine.

On Jan. 2 her general condition seemed slightly improved after the administration of 3 pints (1.7 litres) of reconstituted plasma. The temperature was normal and the pulse rate 120, with better volume. Fluids were well tolerated, though nausea and occasional vomiting persisted. The left arm and leg were swollen and aching; they were held immobile, but passive movements were painless. The right ear was badly swollen and blistery, with a clear discharge. Various other complaints were due to bruises of the head and trunk. The fluid output, however, was ominously unsatisfactory; on this day it amounted to 5 oz. (142 c.cm.) only. Rectal and intravenous drips were set up, glucose solution being given by the former and 3.8% sodium citrate by the latter. This was later changed to 4.2% sodium sulphate in an effort to promote diuresis. Biochemical examination of the blood gave the following results: Blood urea, 62 mg. per 100 c.cm.; alkali reserve, 64 vols. CO_2%; blood phosphorus, 7.04 mg. per 100 c.cm.; and plasma chlorides (as MaCl), 490 mg. per 100 c.cm.

The patient was distinctly worse on Jan. 3. Colour and pulse were less satisfactory, and there was much sickness. Very little urine (3 oz.: 85 c.cm.) was passed, and what was passed was deeply blood-stained. She was becoming waterlogged, especially the left side of face and body, also the limbs on that side. She took fluids by mouth, but complained of nausea and general listlessness. The swollen parts were not painful. In an effort to increase urinary output it was decided to continue the intravenous drip, but to substitute hypertonic glucose-saline for the sodium sulphate solution.

By Jan. 4 the drip had slowed down considerably and was discontinued, the patient now having had altogether 11 pints (6.25 litres) of fluid by that route, of which only a negligible amount had been excreted. Nevertheless she complained of a dry mouth and was taking fluids fairly liberally. On this day she passed no urine at all, and in the evening 4 oz. (114 c.cm.) of urine was found in the bladder on catheterization. The left side of the face, the left leg and arm, also the vulva, were now grossly oedematous. The blood urea rose to 100 mg., but the patient remained mentally alert.

During the next three days the patient's condition remained unchanged. There was no more sickness, and her colour, pulse, and mentality were remarkably good. The entire left side of her body, which had evidently been crushed more than the right, remained very swollen, and the limbs were put on back splints to prevent wrist- and foot-drop. Vague abdominal discomfort was felt and there was some difficulty in swallowing. She took fluids quite well by mouth, so no further intravenous administration was resorted to. On Jan. 5 she passed 6 oz. (170 c.cm.) of urine, on the 6th a total of 8 oz. (227 c.cm.), and on the 7th 14 oz. (397 c.cm.). Mr. Clifford Morson, the urological consultant, for this reason advised against renal decapsulation, which had been considered.

From Jan. 8 there was definite improvement in the general condition, coinciding with an increased fluid output. Oedema was still pronounced, being most troublesome in the vulval region. The left arm could now be moved a little, and sensation was not affected, while the left leg was immobile and anaesthetic from the knee downwards.

Progress was steady during the next few weeks. The oedema gradually subsided, and as much as 8 pints (4.54 litres) of urine was excreted in a day, the kidneys evidently recovering. The patient was sick at times, but this was thought to be due to the pregnancy, which was progressing satisfactorily. Electrical treatment was given to the left leg, and throughout February this was the patient's only remaining disability. On Feb. 11 she was seen by Mr. R. Blunden, who reported: "Left leg paralysed below knee, both anterior and posterior muscles. Anaesthesia distal half of foot much less than on admission. Skin in good condition. Quadriceps functioning well. I recommend toe-raising spring and double irons to below knee, with chuck to prevent plantar flexion at ankle to more than 90°, but to allow dorsiflexion."

On March 31—i.e., exactly three months after her admission—the patient was noticed to be jaundiced. She had not been feeling so well for two days; there was nausea, but no other symptoms or signs. Bile pigments were present in the urine for a short time, and the icterus began to fade within a few days. There had been no instance of jaundice among the patient's relatives and friends who had come to visit her, and this must undoubtedly be considered a case of plasma jaundice. Biochemical examination of the blood at this stage led to the following results, which represent a small degree of liver damage:

Colour index	1·11
Red blood corpuscles	3,950,000 per c.mm.
Haemoglobin	88%
White blood corpuscles	11,400 per c.mm.
Polymorph neutrophils	60%
,, eosinophils	2%
Lymphocytes	35%
Large mononuclears	3%
Platelets	Normal
Sedimentation rate, 1 hour	34 mm. (Wintrobe)
Cell volume	40%
Van den Bergh reaction:	
Direct	Weakly positive
Indirect	2 mg. bilirubin per 100 c.cm. (4 V.D.B. units)
Takata-Ara reaction	Weakly positive
Formol-gel test	Negative
Alkaline serum phosphatase	16 units
Blood urea	26 mg. per 100 c.cm.
Serum proteins, total	6·2 g. %
Albumin	4·0 g. %
Globulin	2·2 g. %
A/G ratio	1·8/1

When the patient was discharged on April 27 her general condition was excellent. The urine was normal, B.P. 125/75 mm. Hg, and the height of the uterus indicated a 6-months pregnancy. Some oedema of the left labium majus had persisted, the left arm had completely recovered, but the left leg remained a little swollen, paralysed below the knee, and anaesthetic in the foot. During the remainder of her pregnancy the patient attended the antenatal clinic periodically, but there was never any abnormality. She went into labour spontaneously on July 16 and had a normal delivery of a healthy male infant weighing 6 lb. 6 oz. (2.9 kg.) on the following day. During the puerperium, which was uneventful, she was again seen by Mr. Blunden, who found: "Quadriceps working. No muscles acting below knee, and there is anaesthesia of foot and front of leg., 1¼ in. (3.2 cm.) wasting of thigh, and 1½ in. (3.8 cm.) wasting 4½ in. (10.5 cm.) below joint line. Response to galvanism present; no response to faradism."

Discussion

There has been considerable interest in the crush syndrome since Bywaters drew attention to it in 1941. This was the first account in this country, though Bywaters (1942) himself pointed out that the condition had previously been described by German authors. It occurs exclusively in persons who have been buried for several hours, with special pressure on a limb. The majority of the reported cases ended fatally, necropsy revealing more or less extensive local necrosis of muscle and degeneration of renal tubules. So long as this damage is of a minor degree—as was probable in the case described—recovery seems to be possible. The urinary output is the best indication of renal competence. In those who die, vomiting becomes persistent; the blood urea rises; urine is scanty or absent; and they eventually pass into uraemia.

The oedema of the damaged limb is tense, rarely pitting, and usually progressive. It is, as a rule, accompanied by paralysis, anaesthesia, and impaired circulation, so that in some of Bywaters's cases the affected part was incised to relieve the tension. On the assumption that autolytic products liberated in the dead or dying tissues are responsible for severe constitutional disturbances, amputation has been performed; but to have any chance of success this course would have to be adopted very early, and at that time shock usually prevents major surgery.

In an endeavour to cause a diuresis, intravenous fluid was given, and continued, with some trepidation, even when the output became practically negligible and the patient waterlogged. Plasma was used at first, and was later replaced by alkaline solutions and saline. The need of the body for alkali and chlorides, indicated by the acidity and low chloride content of the urine, has been noticed by other workers (Blackburn and Kay, 1941; Bywaters and Beall, 1941).

Jaundice, occurring about 90 days after a plasma transfusion, is now a familiar event. There was no other instance of jaundice either in the ward or among the patient's friends and relations, so that the aetiology cannot be doubted in this case. Moreover, the illness was of a lighter and more transient nature than is usual with infective hepatitis.

Finally, it is of interest to note that neither the crush syndrome nor the plasma jaundice had any effect on the pregnancy, which continued normally. The patient ultimately had a normal confinement, and the baby seems to be none the worse for his antenatal experience. The patient herself is now left with a paralysed and anaesthetic foot, and, in view of the slow progress (if any) over the past few months, one wonders whether it will ever recover.

My thanks are due to those of the consultants, and of my colleagues on the resident staff, who gave me the benefit of their advice in the treatment of this patient. I should also like to record my indebtedness to the laboratory technician—Mr. P. Chappell—who carried out the various investigations with keenness and enthusiasm; to the nursing staff, without whose devotion this patient would not have recovered; and, above all, to the patient herself for her endurance, co-operation, and never-failing confidence, although so desperately ill.

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BACTERIOLOGY OF SEPTIC FINGERS

BY

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The following is an account of an investigation planned to discover the rate of secondary infection in infections of the finger and hand, incised and treated in a casualty surgical department; and, at the same time, to assess the incidence of the various pathogens as primary infecting agents.

Methods

The cases were in no way selected, and consisted of a consecutive series of septic lesions of the hand requiring incision, and not severe enough to warrant admission to the wards. The majority of the cases were paronychia, pulp infections, and web-space infections, though there were a certain number of simple subcuticular abscesses, etc., in various parts of the hand and fingers. The fingers were operated on in the casualty department: the surgeon never wore a mask, and used ungloved hands. The dressings were changed either in the main casualty room or in a small side room by a student or nurse, using the fingers: a "no-touch" technique was not employed. Masks were not used by those doing the dressings. Inquiries showed that usually, but not invariably, the nurses "scrubbed-up" before changing a dressing, but at times they passed from case to case without washing their hands. It was not uncommon for patients themselves to remove their dressings.

No attempt was made to adopt a standard treatment for the cases under observation, the surgeon in charge altering the treatment as and when required. Eusol-and-paraffin was the common dressing; sulphathiazole paste, proflavine, magnesium sulphate, were all used frequently. Many of the patients received physiotherapy, which involved quite prolonged exposure of the wound without a dressing: after this treatment the dressing was renewed.

A swab was taken from the lesion at the time of incision, and further swabs, so far as was possible, at two-day intervals until the finger was healed. Cases were considered to be healed when it was no longer necessary for them to wear a dressing and continue to attend hospital. The swabs were inoculated

on to two 3% horse-blood agar plates and incubated for 18 hours at 37° C.—one aerobically and the other in a CO_2 jar, as it has been shown (Rose, 1942) that CO_2 in the atmosphere increases the frequency with which small numbers of β-haemolytic streptococci may be isolated when growing in company with a heavy growth of *Staph. aureus*, etc. From over 600 swabs β-haemolytic streptococci were twice isolated from the CO_2 culture when they could not be identified on the normal aerobic plate. All staphylococci isolated were tested for the production of coagulase: the "slide-test" technique (Cadness-Graves *et al.*, 1943) was used as a routine, but if this was negative the organism was subcultured in broth and a tube test was carried out; if this test was positive such organisms were recorded as being coagulase-positive. No strains of *Staph. aureus* which were coagulase-negative were encountered, and vice versa, so that in what follows *Staph. aureus* may be taken as synonymous with coagulase-positive staphylococci and *Staph. albus* with coagulase-negative ones. All suspicious streptococci were tested for the production of soluble haemolysin, and if this was positive their Lancefield group was determined by Fuller's formamide method.

Owing to the extreme variation in the patients' times of attendance, and other uncontrollable factors, it was not possible to adhere strictly to the routine of swabbing each finger on alternate days. However, it was decided not to accept any case in which more than five days elapsed between two swabbings, although we accepted one case which took 46 days to heal and in which no swab was obtained between the 16th and 23rd days. Similarly, cases were rejected in which more than five days elapsed between the last swab and healing. In two cases an adequate incision had been made before the patients attended hospital, but they are included, as in both cases a pure culture was obtained from the first swab.

Results

In order to obtain 100 acceptable cases swabs had to be taken from 155 patients; the initial swab from the entire series showed *Staph. aureus*, either alone or accompanied by some other organism, to be present in 89.02% of cases, and β-haemolytic streptococci similarly in 7.7%. In 13.5% more than one organism was isolated from the initial swab. It is of interest that in three of the cases from which β-haemolytic streptococci were isolated from the finger lesions the patients had coincident sore throats from which β-haemolytic streptococci of the same Lancefield group were obtained, and in the one case investigated the two organisms were of the same Griffith type. From the initial swab of the 100 fully investigated cases *Staph. aureus* was isolated from 93% and β-haemolytic streptococci from 5%.

Altogether 499 swabs were examined from the hundred completely investigated cases; the greatest number from one case was 32—from a pulp-space infection which took 95 days to heal. Of these hundred cases 18 became secondarily infected before healing, four of them with two organisms. Thus on 22 occasions a secondarily infected organism was isolated, and their distribution is shown in the accompanying Table. Of these

Table showing Incidence of Secondary Infecting Organisms

Organism	A	B
β-haemolytic strep.	4	3
Staph. aureus	6	3
Staph. albus	5	2
Non-haemolytic strep.	1	0
Diphtheroids	3	0
Proteus	1	0
Pyocyaneus	1	0
M. catarrhalis	1	0
Total	22	8

A, Total. B, Established infections. All four strains of haemolytic streptococcus isolated belonged to Group A

22 organisms 14 were recovered on one occasion only, and in none of the four doubly infected cases were both organisms isolated more than once. This leaves 8 cases (8%) which developed established secondary infection, the responsible organisms being shown in the table. Six out of the seven cases in which *Staph. aureus* was not present initially developed infection with this organism, though in three it was isolated on only one occasion.

The average time between incision and healing in cases not developing secondary infection was 11.12 days, and in those developing such infection 20.88 days. Owing to the large variation between cases and the comparatively small number studied these figures cannot be considered significant.

Discussion

Beyond stating that infections of the hand are commonly due to *Staph. aureus*, with an occasional haemolytic streptococcus infection, the textbooks on surgery of the hand do not go into the bacteriology of such lesions. Florey and Williams (1944) and Williams and Miles (1945), who investigated septic fingers and hands from different aspects, give figures for the incidence of streptococcal and staphylococcal infections. But in many of the cases of Florey and Williams certainly, and in some of those of Williams and Miles apparently, the patients were admitted to the wards, which suggests that the lesions were more serious than those investigated here. In the present series all cases needing incision were investigated, including many minor subcuticular lesions, etc. Florey and Williams confined their attention to definitive conditions such as paronychia, web-space infection, septic lacerations, etc., and Williams and Miles did the same, though adding a final category of miscellaneous septic conditions, many of which apparently did not need incision. Thus for two reasons comparison between the infecting organisms in the three series is of little value, and apart from these two papers recent literature does not contain any work on this subject.

With regard to the incidence of secondary infection, it is doubtful whether the figure of 14% represents the true state of affairs. At the time this work was being carried out it was not possible accurately to distinguish one strain of *Staph. aureus* from another, so that in those lesions initially containing this organism it was impossible to determine whether or not they later developed superadded infection with another strain. But in the 7 cases in which *Staph. aureus* was not at first present it was later isolated from 6—a fact which suggests that many of the other 93 cases in which it was present must have developed a secondary infection with a different strain of *Staph. aureus*, and that the true level of secondary infection is considerably higher than 14%.

Florey and Williams record a secondary infection rate of 19% in their series of 212 cases of infection of the fingers, hand, and arm; but again any comparison between this and the rate discovered here is invalidated, owing to the different nature of the lesions and the fact that many of Florey and Williams's cases were treated as in-patients. There does not appear to be any published work dealing with secondary infection in casualty departments. It is obvious that the figure of 14% cannot be interpreted as representing the level of secondary infection in all wounds treated in such departments: the fingers under consideration, with their daily dressings and gaping incisions, offer greater chances of secondary infection than clean incised and sutured wounds healing by first intention, which form a large percentage of the cases treated in these departments.

A secondary infection rate of 14% is much lower than that shown by Miles *et al.* (1940) to exist in open wounds treated in the wards, where it was in the neighbourhood of 50%; nevertheless, if it can be shown that 14%—or, as is likely, a figure somewhat in excess of this—represents the average incidence of secondary infection in septic fingers, it is obviously important that the subject should be investigated further, with a view to determining to what extent such infection adversely affects the progress of the disease. In addition, it is apparent that in the casualty department in question, at any rate, the surgical and dressing techniques might be considerably improved in the light of recent knowledge (M.R.C. War Memoranda Nos. 6 and 11). There is now a large volume of evidence to show that the secondary infection rate in wounds can be materially reduced by means of a rigid aseptic technique and the intelligent use of wound antiseptics. As Paterson Ross (1941) says, "The same considerations apply to dressing wounds at first-aid posts and in the out-patient departments of hospitals —really a much bigger problem and harder to deal with than

ward dressings—and also to dressing wounds which are already grossly contaminated."

My thanks are due to Prof. J. McIntosh for his help in putting this article together; to Dr. C. J. C. Britton for his advice and encouragement; and to the staff of the casualty department for their willing co-operation.

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Medical Memoranda

Repair of Femoral Artery after a Bullet Wound

The following is an interesting case thought to be worthy of publication.

Pte. A. of an Airborne Division was wounded on April 7, 1945, by a bullet which passed through his left thigh from back to front. He was admitted to a casualty clearing station in a Schloss near the Rhine, after a long journey and some delay caused by the very rapid advance in which his unit had taken part.

On admission his left thigh was nearly twice the size of the other. His foot was stone cold, and he said it felt as if it was frozen. No pulse was palpable at the knee or foot. Behind was a small entry hole in the mid-thigh, slightly medially, while in front was an exit hole about 1½ in. (3.8 cm.) across, surrounded by bruised skin. The bone was not broken.

Under general anaesthesia, administered by Capt. L. W. Spratt, R.A.M.C., an operation was performed about 47 hours after the patient had been wounded. The limb was thoroughly cleansed and the large exit wound was excised, enlarged, and explored. The femoral vein was found torn in half and surrounded by huge blood-clots. It was ligated. The femoral artery was torn round three-fifths of its circumference, and also contained a clot. Since this wound made access to the femoral canal rather difficult, a new incision was made 3¼ in. (9 cm.) long in the line of Hunter's canal. The femoral artery was clamped above and below its site of injury, and the clot removed. End-to-end anastomosis was performed, using an 00 suture of catgut. The suture was small continuous-suturing, everting the endothelium. A portion of the long saphenous

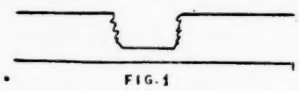

FIG. 1

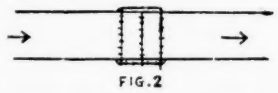

FIG. 2

vein was excised and opened up longitudinally. This was used as a cuff round the femoral suture line, and sutured above and below it. The clamps were removed. Pulsation restarted, and could be felt in the femoral artery distal to the suture line. Next the adventitia was stripped from the vessel for a distance of 1½ in. (3.8 cm.) above and below the suture line to obviate local spasm. The femoral artery was then buried in the sartorius muscle after a bed had been made there for it. The wounds were dusted with penicillin–sulphanilamide powder, and dressed with tulle gras, gauze wool, and bandages. By the time the bandages were in place the foot was warm and pulsation in the dorsalis pedis artery could be faintly felt. No heparin was given, as none was available.

The next day sensation and movements of the foot and toes were normal. Seven days later, when the patient was evacuated to a base hospital, the wound was healthy, sensation was normal in the foot, and he could bend his knee and waggle his foot. A follow-up card was sent with him. On Aug. 15 I received the follow-up card with the following information upon it, for which I am very grateful.

> "Park Prewett Vascular Unit, Basingstoke, Hants.—The above patient arrived here on July 3, 1945, and we were impressed by his good condition. Mr. B. C. Maybury considered the result to be far better than a primary ligature. On April 17 it had been noted that distal pulses were absent. The artery had probably thrombosed, but on admission here had either recanalized or collateral circulation had developed. B.P.: R. leg, 155/85; L. leg, 130/78. Pulses were present. Power of leg good. No ischaemia of muscles. No intermittent claudication."—(Signed) D. O. Williams, Asst. Surgeon.

The patient is now undergoing rehabilitation at a convalescent depot.

J. A. VERE NICOLL, F.R.C.S.Ed.,
Major, R.A.M.C.; late Surgeon to a Field Surgical Unit.

Reviews

EXAMINATION OF THE BONE-MARROW

Die intravitale Knochenmarksuntersuchung. Die Hämatologie im Lichte der Sternalpunktion. By Dr. Med. Stefan J. Leitner. (Pp. 386; illustrated. 36 Swiss francs.) Basle: Benno Schwabe and Co., Verlag Klosterberg 27.

Although a relatively simple method of trephining the sternum was introduced by Seyfarth in 1923, it was the invention of the sternal-puncture needle by Arinkin in 1929 which made the examination of the bone-marrow in life generally practicable. So rapidly has the technique developed that this latest monograph comprises nearly 400 pages, of which 50 are devoted to the list of references to the literature. The book is based on a personal experience of 2,000 sternal punctures in more than 700 patients, and is well produced. There are six small colour plates, and the text is illustrated by photomicrographs. An untouched photograph may be true to life, but as an illustration it cannot compete with an artist's drawing or painting. The author begins by describing the normal appearance and distribution of the marrow cells, and he emphasizes the value of studying the occurrence of mitosis. The disturbances of erythropoiesis, leucopoiesis, and thrombopoiesis in various blood disorders and general diseases are then described in detail. A number of technical applications are considered, such as the administration of infusions and transfusions by way of the marrow, and the value of sternal puncture in the diagnosis of infectious disease. It appears that sternal puncture may be of assistance in the diagnosis of tropical diseases, including typhus and typhoid, but it contributes little to the diagnosis of sepsis or tuberculosis. Marrow withdrawn by sternal puncture has also been used for microchemical investigations and tissue cultures. Dr. Leitner has undoubtedly succeeded in producing a competent and comprehensive account of the examination of the bone-marrow in life. The obvious applications of sternal puncture are in the diagnosis of the atypical megalocytic anaemias and the leucopenic or aleukaemic leukaemias. It is also of value in the differential diagnosis of the haemorrhagic diseases and the selection of patients likely to benefit from splenectomy. But, above all, sternal puncture has familiarized the present generation with the morbid histology of the blood and has taught us to regard a blood disorder as a biological process and not a static picture.

HEALTH INSTRUCTION

Health Instruction Yearbook, 1944. Compiled by Oliver E. Byrd. Foreword by C. Morley Sellery, M.D. (Pp. 354. 18s. 6d.) California: Stanford University Press; London: Oxford University Press.

This yearbook consists of abstracts of 305 articles appearing in various American periodicals in the years 1943 and 1944. It is intended for health instructors and students of current health problems, and not for technically trained persons. As its author, Prof. Oliver E. Byrd, points out in his preface, it does not attempt to give a complete summary of health literature, but it is designed to be an annual publication, so the series will become useful for reference purposes. Though the volume under review is inevitably disjointed, it forms a much more readable account of health instruction than might be surmised from the method of its compilation. This is owing to the fact that the author has classified his information in 20 fairly well defined chapters, and he has usually abstracted, at some length, the introductory remarks in the various articles dealt with.

The first two chapters relate to health as a social problem, and the next chapter to health in relation to nutrition. They are followed by chapters on the effects of exercise and body mechanics, and on mental health and disease. The longest and most interesting chapter in the book relates to infection and immunity, with extensive references to penicillin. The commercial production of this substance in America may be gauged by the fact that the output increased more than twentyfold between June and December, 1943, while in March, 1944, it was twice the 1943 total. By then there were 18 plants for its manufacture in the United States and two in Canada.

Another topic dealt with at some length is the Kenny method for treating infantile paralysis. In a chapter on habit-forming substances we learn that the yearly *per caput* consumption of cigarettes in the United States is now 1,880, and is 60 times greater than in 1900. The consumption of alcohol is likewise rising rapidly, being 17% greater in 1943 than in the previous year. In the chapter on "Safety" we learn that nearly 100,000 persons are killed each year from all types of accidents, and 10,000,000 are injured. Factory accidents increased twice as fast in proportion to the extra number of persons employed, and they have been a major source of impairment of war production. A long chapter on health in relation to physical environment discusses frost-bite, immersion foot and trench foot, and, at the other extreme, the reactions to desert climates and heat-stroke. Three of the subsequent chapters deal with family health, school health, and occupational health, and there is a final chapter on "Trends and Probabilities," which refers in some detail to the White Paper on Britain's National Health Service, and discusses related problems in Canada and the United States.

PROBLEM FAMILIES

Problem Families: An Experiment in Socia Rehabilitation. Edited by Tom Stephens. (Pp. 72; illustrated. 2s. 6d.) London: Pacifist Service Units, 6, Endsleigh Street, W.C.1. 1945.

This pamphlet is an account of some of the most difficult, unpleasant, and thankless work ever undertaken by social reformers. In every large town there exists what Charles Booth called the "submerged tenth"—a kind of social sediment of persons and families, either mentally defective or subnormal in some other way, living from hand to mouth in filthy hovels, a prey to disease, crime, and vice. These apparently irreclaimable outcasts are the object of some admirable case-work done by three small groups of voluntary workers—the Pacifist Service Units in Liverpool, Manchester, and Stepney—who have tried to bring them whatever help could be devised, to enable them to reach satisfactory living conditions, and to restore them—or elevate them for the first time—to self-respecting citizenship. General improvement in living conditions passes such families by, for their peculiar characteristic is their inability to use the facilities and services which are made available for them. Most of the 62 families studied by the units had been given up by other bodies as hopeless. The majority are housed in old insanitary property or unfurnished rooms, the neglect and disrepair of which are largely due to misuse by the tenants. Parents, children, and babies sleep huddled together in one filthy bed. The most obvious common feature of these families is the disorder of their lives—time and duty mean nothing to them. The children are sent to school late, unwashed and ill clad, and run wild in the streets when they are out of school. The cost of these families to the community in social service is quite disproportionate to their numbers, and they produce most of the juvenile delinquency and dirt diseases. This book is not a survey of the problem, which has never been properly studied, but a moving account of some real work at its centre.

The units, each consisting of a field-work leader, a secretary, and a team of case-workers, have struggled not only with the families but with their own lack of means and help and with the efforts of the Ministry of Labour to direct them to other work. The pamphlet tells the story of their results, and that they should have done so much is miraculous. The book is illustrated with six well-chosen photographs which bring out dramatically the squalor of these people and their surroundings. It provides an overwhelming argument for a purposeful handling of this lamentable problem by the agencies of central and local government, who have hitherto managed to evade it.

PAEDIATRIC RADIOLOGY

Pediatric X-ray Diagnosis. A Textbook for Students and Practitioners o Pediatrics, Surgery and Radiology. By John Caffey, M.D. (Pp. 838; illustrated. $12.50 or 75s.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

Those who are especially interested in paediatrics are fond of asserting that it is not a specialty but rather an application of the principles of general medicine and surgery at a special age period. In *x*-ray diagnosis this is well illustrated, for the essential problems and difficulties are occasioned by the age of the subjects and the rapid changes caused by growth and development. Dr. John Caffey, who is the associate professor of paediatrics at Columbia University, is also associate paediatrician and radiologist to the Babies' Hospital, New York. He has written a textbook called *Pediatric X-ray Diagnosis*, which he claims is the second only of such books in the English language. It is based on fortnightly conferences at the Babies' Hospital during the last twenty years, and Prof. Rustin McIntosh has read and criticized the entire manuscript, so that the standard of the whole book is high and clearly based on wide experience. The subject-matter is arranged anatomically in six main sections: head and neck, thorax, abdomen, pelvis, extremities, and vertebral column. The paper used allows of reproduction in the text of the illustrations, over 700 in number, and the choice has been well made, arrows and diagrams being used whenever necessary to bring out important points. There is a good index.

Students and practitioners of paediatrics, surgery, and radiology will find this a valuable work of reference. Its appearance fifty years after Röntgen's discovery is a remarkable example of the developments of this indispensable aid to diagnosis.

Notes on Books

The fifth edition of P. N. PANTON and J. R. MARRACK'S *Clinical Pathology* (London: J. and A. Churchill; 21s.) has been revised with the assistance of H. B. May. There is a new chapter on antibacterial chemotherapy, and various new methods are described, particularly in haematology and chemical pathology. This well-known little book serves as an attractive introduction to the various branches of its subject, and will assist practitioners as a reference book in connexion with pathological investigations. The sections on bacteriology and morbid histology, though excellent as far as they go, need for the student's purposes to be supplemented by the use of other textbooks on these subjects.

The fourth edition of J. A. KOLMER and FRED BOERNER'S *Approved Laboratory Technic* (London: D. Appleton-Century Co.; 50s.) appears after an interval of four years, and has been extensively revised. This comprehensive and profusely illustrated work describes a great variety of methods, and the clinical pathologist faced with an investigation with the details of which he is unfamiliar will find it a valuable work of reference.

Vol. III of *Selected Papers from the Royal Cancer Hospital (Free) and the Chester Beatty Research Institute* comprises reprints of 39 articles by members of the staff which appeared in various medical and scientific journals during the years 1941 and 1942. It runs to 350 pages and includes many illustrations. In a brief foreword the Governors of the hospital acknowledge generous financial support from bodies both in this country and in the United States, without which the researches described would have been impossible. The British Empire Cancer Campaign has made substantial grants every year since its foundation in 1924. Gratitude is expressed to the Sir Halley Stewart Trust, the Medical Research Council, and the Laura de Saliceto Fund of the University of London; also to fellow-workers in cancer research in the U.S.A.—namely, the International Cancer Research Foundation, the Anna Fuller Fund, the Jane Coffin Childs Memorial Fund, and the Finney-Howell Foundation. Copies (price 16s.) may be had from the Secretary of the Royal Cancer Hospital, Fulham Road, London, S.W.3.

Néphropathies et Néphrites, Leçons Cliniques, by F. RATHERY, is published in Paris by Librairie J.-B. Baillière et Fils, 19, Rue Hautefeuille. These clinical lectures were given in 1937–8, but they were not published till 1941 and have only now made their way to this country. They deal with a variety of topics from the role of sodium chloride in nephritis to carcinoma of the kidney, and they make pleasant and informative reading for the student of renal disease. Until recent years, at any rate, the French approach to nephritis has been more dynamic and functional than ours, and it is well depicted in these lectures.

Methods for the further reduction of smoke in towns and its prevention in new building areas are detailed in a booklet which the National Smoke Abatement Society has prepared for local government authorities. It is pointed out that legislation in respect to smoke has so far been punitive and concerned only with mitigating a nuisance already committed. Responsible opinion is now in favour of legislation that is preventive and concerned with conditions resulting in smoke. The booklet urges that plans and specifications of all proposed new fuel-burning plant should be approved by a competent authority before installation, and local authorities should set an example by ensuring that their own premises, and premises under their direct control, are rendered smokeless.

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PRINCIPLE AND UNITY

Medical men at the moment have a natural impatience with the absence of information about medico-political developments. It is rather like waiting to hear the result of the final examination. Mr. Bevan has made his statement about the buying and selling of practices. His draft proposals have been submitted to the principal interested bodies. The irksome question of compensation is now under discussion, and at the same time the Spens Committee is completing its investigation into the incomes of general practitioners. The Negotiating Committee, representative of all groups of medical men and women, has been hard at work examining the Government's proposals and thrashing out the question of compensation. Why cannot we be told what is going on? is the question that naturally comes to all those who personally have so much at stake, and so many immediate and remote decisions to make—whether to retire in the assurance that practices will be sold either to an individual successor or to a Government which will pay full compensation in hard money, or whether, for the young man, to buy a practice now or wait in suspended idleness. If there is a silence on these matters it is a silence imposed by the necessities of the situation. The Government's provisional plan cannot be discussed because it has been submitted as a confidential document on which the Negotiating Committee, among other bodies, is asked for its observations and comments. The committee will no doubt ask the Minister a number of questions on a great many points of the plan, and will criticize many aspects of it in the light of the principles published in the *Journal* of Dec. 15 (p. 833). These criticisms and questions will also be based on previous decisions taken by the profession, and, in the case of the B.M.A., on policies laid down by the Representative Body. The Negotiating Committee has no mandate to go further than this, and cannot commit the profession to the plan in part or in whole. It can but criticize and comment and then wait to see whether the Minister will take notice of its representations when he presents a Bill to the House of Commons. At this point the medical profession will have to examine the contents of the Bill in a critical, thoughtful, but dispassionate spirit, and decide what its attitude is to the Bill as a whole and to its various parts. The task of the Negotiating Committee will be to collect the opinions of the profession, to analyse these, to sift out the implications of the Bill, to formulate what comes out as the considered judgment of the profession, and then to decide with the majority what action to take. After all, unless the profession decides to operate the projected service, legislation will remain a dead letter.

In this very critical phase of the history of medicine the profession is faced with two distinct dangers, and it will be according to how it faces these and masters them that it will be in a position to guide its own destiny in working out a comprehensive health service in co-operation with a Government recently elected by the people of this country. The first danger is that the profession will fail to be really united on the basis of common objectives and on agreement on the means of reaching these. The second is that the spirit of demagogy will prevail, and that in the confusion of emotional tongues the small voice of reason will be drowned beyond hope of resuscitation. There is a real risk that shibboleths and slogans will be substituted for reason and fact, that many of us will behave as thalamic rather than as cerebral animals. Nothing can do greater disservice to the real interests of medicine than the use of emotive words and phrases, and indulgence in the language of the hustings. To bandy words like "Fascist" and "Communist," "reactionary," and "revolutionary," or to indulge in vituperation against persons, institutions, or parties, will belie our claim, and our just claim, to be considered as a learned and liberal profession, whose thought and way of life are based upon science and the humanities.

The expression is often enough heard that we are a divided profession, and that our divisions are obscured by a polite convention not to refer to them. The Minister himself has hinted that our divisions are deep, and as an experienced politician he may be expected not to ignore the divisions if they may help him in achieving what he believes to be desirable for the health service it is his task to provide. *Divide et impera* is a familiar maxim for those in power. We must recall that the Minister has an obligation to fashion a national health service. It is a policy that was agreed on by all parties in the Coalition Government, and successive plans were made by and negotiations conducted with first a National Liberal, then a Conservative, and now a Labour Minister. The profession cannot put the clock back or stop it from ticking on—even though to some it may now seem like an alarm clock timed to go off at any moment in the next few weeks.

A disadvantage under which the profession labours is that there are so many diverse activities and interests within it. It is, in a way, compounded of many professions. Although all the various professional groups are united by a common educational background and a common aim to relieve the sick and the suffering and to promote conditions of health, there are many sharp antagonisms within it, and many different ways of life. There is, for example, a great difference in the way of life and work between the hard-worked panel doctor in a poor industrial district and the successful consultant in London, between the general practitioner and the medical officer of health, between the medical superintendent of a municipal hospital and a research worker in a clinical unit, between the medical administrator and the industrial medical officer, between the ship surgeon and the medical statistician. It is, in fact, one of the highest attractions of the profession of medicine that it offers such a rich variety of life for so many different types of men. But this very diversity makes unity difficult. It seems at times that each group, each unit, and even each individual, wants a medical service to suit it or him. As Sir George Stapledon said about another matter in a recent letter to the *Times*, "It will be well if those responsible never for a moment permit themselves to forget that

regimentation is foreign to the British character, for at heart we are a race of pirates, individualists, adventurers, and inspired amateurs." This is something the Minister must take into account if he is to secure the co-operation of the medical profession, and it is something the profession itself must take into account if it is to secure the unity which alone will lend wisdom and direction to its decisions and actions.

It is safe to prophesy that, whatever provisions the coming Bill will contain, some members of the profession will be dissatisfied. And it is clear that no counter-proposals will secure the assent of every doctor in the *Register*. For example, the small but active group represented by the Socialist Medical Association will be content with nothing that stops short of the socialization of medicine, and we may assume that their political aims—if not their present programme—coincide with those of the present Government. In opposition to this will be those who in politics are conservative. But probably the mass of doctors are non-political in attitude and want only to get on with their work in their own way with the least possible interference from anyone else.

On what basis, therefore, can we seek unity? It cannot be on a basis of expediency and stratagem, but on the basis of principle. The Negotiating Committee has given a clear lead by enunciating certain principles and by publishing them. These have been accepted and approved by the profession with scarcely a voice of dissent, and it is appropriate to repeat here the principles which stand out as embodying what is sincerely held by the overwhelming majority of doctors in this country.

I. The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time, salaried servants of the State or local authorities.

II. The medical profession should remain free to exercise the art and science of medicine according to its traditions, standards and knowledge, the individual doctor retaining full responsibility for the care of the patient, and freedom of judgment, action, speech, and publication, without interference in his professional work.

III. The citizen should be free to choose or change his or her family doctor, to choose, in consultation with his family doctor, the hospital at which he should be treated, and free to decide whether he avails himself of the public service or obtains independently the medical service he needs.

IV. Doctors should, like other workers, be free to choose the form, place, and type of work they prefer without Governmental or other direction.

V. Every registered medical practitioner should be entitled as a right to participate in the public service.

VI. The hospital service should be planned over natural hospital areas centred on universities, in order that these centres of education and research may influence the whole service.

VII. There should be adequate representation of the medical profession on all administrative bodies associated with the new service, in order that doctors may make their contribution to the efficiency of the service.

These are not just idle words thrown together to create an impression of general high-mindedness. They are the reagents with which we must test the Government's mixture. Each item of the Bill must be examined in the light of these principles, and so must the Bill as a whole. If there is any fundamental departure from these principles, then resistance to what offends against them will be firmly based. To resist on any other basis would be folly. Conversely, if the Government can convince the profession by reasoned argument and agreed adjustment of differences that these principles will not in fact be infringed, then the profession will not wish to withhold its co-operation in the task of remoulding the medical and health services of Great Britain.

COMPENSATION

The Negotiating Committee has met the Minister of Health, been informed of his proposals, and been invited to comment on them. Since meeting the Minister it has met three times to consider his proposals and prepare its comments on them. It will meet the Minister again next week and convey its views to him. Simultaneously, discussions have been going on between a special subcommittee of the Negotiating Committee and officials of the Ministry of Health on questions of compensation. Neither the Negotiating Committee nor the Compensation Subcommittee can commit or has committed the profession to an acceptance of the Government's view that the buying and selling of practices shall cease. This question is one for the profession to decide when it sees the Government's proposals as a whole and the compensation and other proposals indicated. Subject to this important reservation, discussions on the details of compensation have been proceeding, and it is probable that a statement of the Government's intentions will be made at an early date. The announcement will take the form of a statement of the Government's proposals. The reply of the profession will be made on the plan as a whole soon after the Bill is published.

SULPHONAMIDE CONTROL OF STREPTOCOCCAL EPIDEMICS

War entails the crowding together of great numbers of men, and crowding favours the spread of infection. In 1918–19 haemolytic streptococcal infections caused 242,000 casualties in the American armed Forces, and 56,000 men were crippled with rheumatic fever or acute rheumatism. At the onset of World War II greater precautions had been taken against respiratory infections. Nevertheless in 1942 the haemolytic streptococcus caused 47,000 infections in the United States Navy, and in 1943 the rate continued to rise among the large numbers of new recruits stationed in the great training camps. In November, 1943, a "Streptococcal Control Programme" was instituted, and its methods and success have recently been described by Coburn.[1]

Owing to the military needs of the moment many recognized methods for the control of streptococcal epidemics —e.g., isolation of carriers—were impossible, and from the start emphasis was placed on continuous chemoprophylaxis. This was effected by giving every man 1 g. of sulphadiazine daily. At first only half the men in each camp were treated in this way, and the other men were retained as controls. But in a few months the success of the measure was so clear that the treatment was extended to all the occupants of the camps. Altogether 600,000 men were given prophylactic sulphadiazine in this way for a total period of 3,000,000 man-weeks. The treatment was maintained for most of the winter, when the risk of infection was high. Haemolytic streptococcal infections were

[1] *Bull. N.Y. Acad. Med.*, 1945, **21**, 281.

greatly reduced, and the hospital admission rates for respiratory diseases fell from 5 to 18 per thousand men per month in the different camps to less than 1 per thousand. Illnesses due to scarlet fever, to tonsillitis, or to rheumatic fever were all much diminished. Instead of the carrier rate for haemolytic streptococci among new recruits becoming almost 30% it remained constant at its previous level of about 10%. The success with other infections depended upon the sulphonamide-sensitivity of the relevant organisms. The meningococcus was highly susceptible, and meningococcal meningitis was practically abolished. The pneumococcus varied in sensitivity in different camps: in some the disease rate fell by 50 to 80%; in others it was unchanged. Virus diseases, such as influenza and measles, were unaffected. The daily dose of 1 g. of sulphadiazine resulted in a mean blood concentration of about 2 mg. per 100 c.cm. This dose was slightly more effective in preventing infection than a dose of 0.5 g. daily. Toxic reactions were much less frequent than had been feared; about 0.5% of the men had mild dermal reactions during the first three weeks. Severe reactions, such as granulocytopenia or exfoliative dermatitis, occurred in only 39 men out of the 600,000—less than 0.01%. These severe reactions were reversible provided that the patients were not given further sulphonamide treatment. Before this was realized there were 13 deaths due to sulphonamides. Later penicillin therapy was instituted for such cases, and there were no further deaths. These casualties should be balanced against the greater number of deaths which might have been caused by streptococcal infections if the disease rate had not been controlled. Mass chemoprophylaxis did not induce sulphonamide-hypersensitivity among the men, nor did it produce sulphonamide-resistant strains of streptococci. Altogether this experience forms one of the most successful medical operations of the war.

Its applicability to peacetime practice is less straightforward. The conditions under which it was so successful were peculiar in many ways. These training camps formed closed communities, shut off from the rest of the world except for the continuous addition of non-immune recruits. The population consisted of young men from different localities, each exposed to many infections not previously encountered. Because of crowding in the barracks, swimming instruction in indoor baths, etc., the risks of transmission of infection were much greater than is usually the case. Finally, a high proportion of the respiratory infections were due to the haemolytic streptococcus, an organism particularly sensitive to the action of sulphonamides. In peacetime sulphonamide prophylaxis will be most effective in relatively closed communities—e.g., residential schools or large mental hospitals. Factories or offices appear unsuitable because the worker mingles with all sorts of other people for the non-working part of the day. Secondly, this measure should be limited to epidemics known to be due to a sulphonamide-sensitive organism; the sulphonamide-sensitivity of the predominant organism should be examined as early as possible. Sulphonamide prophylaxis is also justified for persons who have suffered from rheumatic fever. These people are so susceptible to infection by haemolytic streptococci, and the consequences of such infections, which reactivate the rheumatic process, are so harmful, that the risk of toxic reactions might well be taken in order to avoid the much greater risk from further attacks of rheumatic fever. Special supervision should be provided for all these groups to detect and to treat any untoward reaction to the drug. Further details about the indications for such chemoprophylaxis, and its general conduct, are given in a recent Medical Research Council memorandum.[2]

[2] M.R.C. War Memorandum No. 10. 2nd ed., 1945, p. 59, London

ATOMIC RESEARCH AND MEDICINE

In his recent address to the Manchester Joint Research Council Sir John Anderson mentioned the usefulness to medicine of work on the atomic bomb. The technique employed to produce the new element plutonium gave a ready means of procuring a vast range of new radio-active substances. Radio-phosphorus, radio-iron, and radio-sodium, for example, could now be administered in proportions too small to be harmful, and their radio-active properties could be used to determine their exact behaviour in humans and in animals. Work of this kind has been done in many laboratories in the United States during the last five years.

One of the striking developments has been the discovery of the mechanism of transmethylation by Vincent du Vigneaud at Cornell University Medical School in New York. His work leads to the general conclusion that all C–CH_3 and S–CH_3 groups in the tissues of the body originate in the methyl groups of choline, betaine, and methionine.[3 4] He studied the effect on the growth of rats of adding homocystine to a methionine-free diet. Some observers had found that homocystine enabled rats to grow, but du Vigneaud was unable to confirm this. He showed that something in the B complex was necessary as well as homocystine, and finally choline was discovered to be the missing substance. In the presence of choline, homocystine was transformed to methionine, and this effect of choline was because of the methyl groups it contained; tri-ethylcholine had no such effect. Thus the inference was that the growth which resulted from feeding both homocystine and choline was due to the transference of a CH_3 group from choline to homocystine to yield methionine. Proof of this was obtained by preparing choline in which the hydrogen in CH_3 groups was replaced by heavy hydrogen (deuterium). This product, deuteriocholine, was fed to rats together with homocystine; du Vigneaud then sought and found the deuterio-methyl group in the methionine of the tissues. He has shown in the same way that the methyl group of creatine comes from choline or methionine; deuterio-choline given to rats led to the appearance of the deuterio-methyl group in the creatine of the muscles and also in the creatinine of the urine. This observation has since been extended to man by feeding heavy methionine and examining the creatinine in the urine. The administration of heavy methionine to rabbits leads to the appearance of deuterio-anserine in the muscle tissue. Dr. George Whipple and his colleagues[5 6] have used ferric sulphate, ferric chloride, and ferric ammonium citrate containing radio-active iron; the amount present might be 1 part in 2,000 million. They have given a single dose of this so-called "tagged" iron to dogs depleted of iron. This leads to a rise in the proportion of red cells containing tagged iron which reaches a peak between the fourth and the seventh day, after which the proportion declines. If red cells are broken down by giving acetyl phenyl hydrazine it is found (by following the tagged iron) that the iron set free is almost wholly used to make fresh red cells. In dogs with a biliary fistula very little iron is found in the bile; the amount may rise from 0.2 mg. to 2 mg. for a day or two and then diminish, the total iron excreted in the bile being about 15 mg. The total breakdown, however, has been about 450 mg. The formation of liver glycogen in the rat after the administration of lactic acid has been studied by Baird Hastings at Harvard.[7 8] There are three carbon atoms in lactic acid, and samples of lactic acid

[3] *J. biol. Chem.*, 1939, **131**, 57.
[4] Ibid., 1941, **140**, 625.
[5] Ibid., 1940, **134**, 585.
[6] *Amer. J. Physiol.*, 1942, **135**, 600.
[7] *J. biol. Chem.*, 1941, **137**, 557.
[8] Ibid., 1942, **142**, 371.

have been prepared in which each of these three carbon atoms in turn was radio-active. Thus it has been possible to find to what extent the three carbon atoms respectively contribute to the formation of liver glycogen.

These examples of the use of radio-active elements can be multiplied many times. Thus observations in which radio-active iodine and radio-active phosphorus have been employed have been made by several workers. It is clear that the method provides a new approach to the discovery of the stages of numberless biochemical transformations.

A MODERN VIEW OF GOUT

Most physicians in this country would describe gout as a disease of the past, like chlorosis and abdominal aneurysm, and it is therefore interesting to read an American monograph which strongly controverts this and other views about the disease.[1] Talbott claims that gout is not rare, accounting for 5% of all patients suffering from disease of the joints, and there is no significant reduction in incidence from generation to generation. He uses the word "gout" as a parent term with three clinical subdivisions: acute gouty arthritis, intercritical gout, and chronic deforming gouty arthritis. This implies that gout, in the sense of a disturbance in the metabolism of uric acid, may be latent or subclinical, and family studies show that this is indeed the case. A high proportion of the relatives of patients with gouty arthritis have an abnormal amount of uric acid in the serum, although they themselves may not have suffered from joint symptoms. Gout is in fact a hereditary disease, and as it occurs twenty times as often in males as in females it may be a sex-linked characteristic. Cases of gouty arthritis develop in gouty families primarily because of the hereditary predisposition, while social factors, environmental influences, and dietary indiscretions are relegated to a position of secondary importance. There is no support for the view that gout is confined to the upper social strata or that it is a disease of persons who are habitually intemperate, whether in regard to alcohol, sexual activity, or food. In estimating uric acid it is important to use plasma or serum rather than whole blood; with this precaution values over 6 mg. per 100 c.cm. of serum are found in 96% of cases of gout, whereas they are extremely rare otherwise. Chemically it is more accurate to speak of urate than uric acid, as the acid cannot exist in a free state in the body fluids. Studies of the renal clearance by modern techniques show that there is no significant difference between gouty and non-gouty subjects in the ability of the kidney to excrete urate. The corollary appears to be that the disease is due to an increased formation of urate in the body. This metabolic error probably exists from birth, but gives rise to symptoms only in later life and in a small percentage of those with the defect. The renal damage which is so common a feature of advanced gout is the result of the excretion of insoluble urates which are precipitated in the tubules and damage the kidney. In fact the gouty kidney might well be compared with the sulphonamide kidney.

The nature of the acute attack of gout is not clearly understood, but it is probable that crystals of sodium urate are deposited from the synovial fluid on to the surface of the cartilage. Although the attacks are often attributed to eating and drinking, there is little scientific evidence that this is the case, though some patients learn to recognize that specific articles of food or drink may bring on an attack. On the other hand it has been shown that certain drugs may be responsible, such as liver, vitamin B, salyrgan, insulin, and ergotamine; so also may acute infections, trauma, and surgical operations. Many atypical and aberrant forms of gout have been described, but these are for the most part mythical maladies. In fact, gout, like malaria and influenza, has often served as a cloak for ignorance; but the biochemical test for the uric acid in the blood has removed any excuse for confusion. The specific remedy for gout is colchicine, which is both highly successful in effect and mysterious in mode of action; it does not increase the excretion of urates. Talbott emphasizes how important it is for patients to take colchicine early and in adequate dosage when they experience the symptoms which they have learned to recognize as the prodromata of an attack. He advises a tablet of 0.5 mg. colchicine alkaloid every 60 or 90 minutes until relief has been obtained, or 16 tablets have been taken, or gastro-intestinal irritation prevents further dosage. Usually joint pain begins to subside in 12 hours and relief is complete in 24 to 48 hours. Small doses of colchicine are useful in the intercritical periods, but here salicylates also have a useful place. Salicylate and diodone increase the excretion of urates by competing, as it were, for the activity of the tubule cells; salyrgan and cinchophen act by depressing the function of the tubule cells and preventing reabsorption of urates. Talbott recommends colchicine and salicylates as the basis of medical treatment, and condemns the use of cinchophen as unjustifiably dangerous. His monograph is beautifully illustrated, though one would have liked to know the magnification of the photomicrographs, and in its clear style and presentation it is a noteworthy contribution to the literature of gout, a disease which has always had an attraction for the medical stylist.

[1] Talbott, J. H., *Gout*, Oxford University Press, New York, 1945.

THE CHRONIC SICK

In all the hospital surveys, issued in conformity with the Ministry of Health decision in 1941 to examine the hospital services of the whole country, the one unanimous recommendation concerns the chronic sick. All the surveyors seem to have been impressed by the deplorable lack of accommodation or the poverty of the accommodation for this unfortunate class of people. There are exceptions in progressive towns, but in general the oldest and worst buildings seem to be assigned to these patients. Most of the surveyors recommend strongly that no chronic sick person should be admitted primarily into a hospital or institution designated for the sole treatment of such cases. Some of them want to do away with the term "chronic sick" altogether, because the label becomes tantamount to "incurable." One proposal is that the provision for the chronic sick should never be divorced from the general hospital, but that these patients should be housed in separate blocks within its curtilage. It is suggested that in some areas most of the public assistance institutions should be scrapped and rebuilt. The number of chronic sick is variously given; one estimate is 2 per thousand of population. But however many there are this does seem to be the Cinderella of hospital administration, and the subject will need special attention in the Government's plans.

We much regret to announce the death of Sir Comyns Berkeley, consulting obstetric and gynaecological surgeon to the Middlesex Hospital and Chairman of the Central Midwives Board; also, on the same day and at the same age, of Sir John Broadbent, Bt., consulting physician to St. Mary's Hospital and for ten years Dean of the Medical School.

PREMEDICAL ZOOLOGY: A DIFFERENT VIEW-POINT

BY

D. W. EWER, M.A., Ph.D.

The problem of the early biological instruction of medical students has been the subject of a recent interesting and stimulating article by Drs. Abercrombie and Johnson.[1] With their ideas on how to train young students in scientific method no one will quarrel. Many of their ideas about the reform of the zoological syllabus of the first M.B. examination are, however, more controversial. Their central theme is that the proper study of the elementary medical (and zoological) student is man, and that zoological instruction given during the first year at university or hospital should be redesigned along these lines.

The need for the extension of biological teaching in schools is now generally accepted, and there can be little doubt that for those who do not intend to pursue biological studies further the biology of man must receive first consideration. For those who are going to dedicate many years to the subject the anthropocentric approach may not be the best starting-point. The medical student will devote two years to the unrestricted study of human anatomy and mammalian physiology and will subsequently study the human body in disease. Since all his later student years are to be dedicated to the study of biology from this limited view-point the need for giving him during his first year as broad a background as possible is imperative.

Man's Place in the Evolutionary Scheme

The zoological training of the first-year medical student has to be considered with two factors in mind:

(i) The course must lay a scientific foundation for a highly detailed study of human anatomy and physiology. It must therefore include a general outline of mammalian anatomy (including histology) and physiology, and also, since it is widely used for physiological experiments, the anatomy of the frog; the use of the microscope and of the scalpel must also be known.

(ii) The medical student will usually not have an opportunity for the further study of zoology. The course must therefore make it clear that one scientific approach to human anatomy and physiology lies in an understanding of man as the product of long evolution and as adapted to a particular habitat. At the same time the scientific principles underlying the study of the relationship of man to his civilized environment, to his parasites and his food supply, must be made plain.

These considerations closely define the nature of the course which is required. The central theme must be that of evolution rather than man. Nothing, in fact, could be more unfortunate scientifically than to inculcate in the mind of the young student the idea of man as the measure of all things. It is true that man may be better in this role than the traditional frog, but, as Prof. Cole's recent *History of Comparative Anatomy* shows clearly, this approach is scientifically barren, and biological thought without the guiding principle of evolution becomes pointless and undirected.

The existing syllabus was no doubt framed with the idea of illustrating evolution. The method used is to give a short description of the whole animal kingdom illustrated by a detailed study of a few animal types. Unfortunately the account of the anatomy of the types has tended to become an end in itself, and the underlying principles, hard enough to appreciate anyway in such a broad survey, have been lost. The method is a failure, and has led to the student cult of the reproductive organs of the earthworm, whose ending no one would lament.

Outline of Vertebrate Evolution

It is clearly necessary to reform the course. How, then, in greater detail should this be done? A start should be made with a survey of the animal kingdom in relation to habitat and structure. This must not, however, be allowed to descend to the level of a catalogue of aesthetically pleasing or economically important animals. It must show clearly how, say, arthropods differ from molluscs and echinoderms. The principle of increasing complexity of structure must be stressed, but no time should be spent on the detailed anatomy of particular invertebrates. Then, by reference to the fossil record, the general outline of vertebrate evolution should be shown as demonstrating on the one hand the fact of evolution and on the other the biological position of man as a recent product of a long process. The course should then give a detailed account of the evolution of the vertebrates as a dynamic story showing the fish as the starting-point; how and why the vertebrates came on land; the new problems they had to solve; and how these were solved increasingly effectively by amphibia, reptiles, and mammals.

This treatment differs from that of Drs. Abercrombie and Johnson very radically. They believe that the principles of comparative morphology are the "least important branch of zoology when man is the centre of interest." Surely it is these principles which can help to leaven the long study of topographical anatomy. To omit these, the greatest unifying principles of biology, is to encourage an empirical and unscientific frame of mind. It is because these principles are so well illustrated in any account of the evolution of the terrestrial vertebrates that particular emphasis has here been laid on this question.

If the principles of comparative morphology are rejected a new unifying idea has to be sought. This is found by Drs. Abercrombie and Johnson in a "central theme, such as the maintenance of constancy of the internal medium in the land habitat." This theme is to serve as the leitmotiv to a study of the "physiological anatomy of man against a background of other animals."

It is submitted that this central theme is asking the student to run physiologically before he can walk. The maintenance of the constancy of the internal environment is effected by the integrated regulations of certain functions. Before these regulations can be understood the methods of working of the component parts must be thoroughly grasped, and in some cases a very detailed knowledge is required. The elementary student must be given elementary facts, and would surely be better served if he is shown the fundamentals of certain types of physiological mechanisms such as locomotion, digestion, respiration, and excretion, if he is shown the living organism as a physiological unity and as an attempted adaptation to a particular way of life. The essentials of the various mammalian physiological mechanisms and their anatomical basis can undoubtedly be better understood when they are seen in relation to the evolution of the terrestrial vertebrates, rather than when odd animals are occasionally introduced to clarify particular difficulties which may arise in human anatomy and physiology.

The treatment of vertebrate embryology should go hand in hand with that of anatomy and physiology, and the adaptations of the embryo to a terrestrial existence should be shown. At the same time the significance of recapitulation and its usefulness in understanding the morphological events of ontogeny should be explained.

The course of study should then proceed to consider the possible mechanisms of evolution; genetics should be shown in its relation to natural selection. The question of nature and nurture can be amply discussed in this connexion as well as the evolutionary consequences of tool-using and civilization. Here also logically belong a discussion of adaptation and oecology, including food-chains and the pyramid of numbers, together with a consideration of the effect of human interference on animal populations. The problems of the biology of parasitism should be presented against this background, emphasis being laid on how control measures are dependent on a knowledge of the biology of the parasites and their hosts rather than on over-detailed accounts of the morphology of different stages in the parasitic cycle. Finally a brief account of the historical development of biology should be given so that its relations with medicine and the other sciences may be seen. These latter details agree closely with the proposals of Drs. Abercrombie and Johnson in content except that the emphasis on evolution rather than on man is still stressed.

Social Aspects of Science

During recent years there has grown up an increasing body of opinion which believes that the interest of the student in science can be enhanced if the social applications and origins

[1] Abercrombie, M., and Johnson, M. L., *British Medical Journal*, 1945, **2**, 262.

of the subject are emphasized. This view is doubtless quite correct, but is open to abuse and misinterpretation. For example, it is not necessary or desirable to teach only the latest discoveries in any field. Physics is not best approached through atomic bombs, or biology through D.D.T. In dealing with embryology Drs. Abercrombie and Johnson suggest that the course should consist of "development, omitting details of morphological embryology." This is a vague formula, but when taken together with their dictum that "comparative morphology is the least important branch of zoology," one wonders whether the morphological details are to be replaced by a discussion of the results of experimental embryology. Interesting and important as these are, they are certainly incomprehensible without a detailed morphological background. Students may perhaps learn the catchwords, but their knowledge will be shallow.

Again, the introduction of the social aspects of science cannot eliminate the necessity for application and learning on the part of the student. The multiplication tables still have to be learnt even if their historical background is explained; they are no easier to learn because of it, but the incentive to learn may be greater. Such an approach must not be allowed to become one in which learning the social background replaces learning the facts; mathematics, chemistry, and zoology must not be allowed to degenerate into history and sociology.

Finally, such an approach must not be used as an excuse for learning something different simply because it is easier. This appears to be the attitude of Drs. Abercrombie and Johnson. In defence of their anthropocentric orientation they stress the point that "the material [presented] will be more readily learnt and retained than will that of traditional zoology." Note that the contrast is between traditional zoology and human biology, not between the traditional presentation of zoology and a presentation with a more human appeal. Drs. Abercrombie and Johnson in fact favour human biology rather than zoology as a part of the early training of the medical student because, *inter alia*, they find that human biology is easier to learn than zoology. To learn Spanish is probably easier than to learn Greek; both may be necessary, but they are not the same thing. This appeal to ease of learning must be disallowed, though it is incidentally interesting to note in this connexion that the B.B.C.'s biological course for schools, prepared by Miss Honor Wyatt, has for several years now been based on the story of vertebrate and human evolution.

Another argument pressing the claims of human biology is that it will forge a real link between the first M.B. and the subsequent course, so that there will be "less danger that the biological principles which the course illustrates, and the scientific attitude it is supposed to inculcate, will be jettisoned." It is not clear why Drs. Abercrombie and Johnson consider that the inculcation of the scientific attitude ends with the first M.B. That, however, is beside the more important point that this link depends in reality on the fact that the biological principles which Drs. Abercrombie and Johnson would introduce into the first M.B. are those which the students will have with them always. I suggest that the link should in fact be forged from the other side and that more material from comparative anatomy and physiology could advantageously be incorporated in the second M.B. courses.

Conclusion

In the final analysis, however, we return to the problem of whether there is a need for a zoological course for first-year medical students or whether they should rather be given an outline of human biology, including instruction in human anatomy and physiology, presumably by competent human anatomists and physiologists and not by zoologists, whose knowledge and experience on these matters are generally limited to their reading of textbooks. It has been urged above that the contribution of zoology to the intellectual armament of the medical student is the evolutionary outlook towards biology. This, zoology alone can give, and if this, the most embracing of all biological generalizations, is worth fully understanding, the medical student must have a zoological course. To sum up:

(i) The main contribution of zoology to the intellectual training of the medical student is the idea of evolution.

(ii) The zoological course of the first M.B. should be designed to show man's place in the evolutionary scheme.

(iii) This can most easily be done by laying the main emphasis on the evolution of the vertebrates.

(iv) A course in human biology is not a substitute for a course in zoology, nor is ease of learning a criterion by which the desirability of teaching a subject can be judged.

ORGANIZATION FOR TREATMENT OF CANCER

Some three years ago, as a sequel to the passing of the Cancer Act, the National Radium Commission issued a pamphlet *Organization for the Treatment of Cancer*. The Commission did not attempt to frame an exact constitution, nor did it lay down any specific pattern for future organization. It confined itself to an examination of the defects of existing facilities for dealing with the disease, and put forward suggestions for the improvement of these, dealing, however, with general principles only; for example, the importance of early diagnosis, the need for consultation between a team of experts before treatment is planned, the desirability of pooling resources, and the cardinal position occupied by research. The Royal Cancer Hospital (Free) found itself in general agreement with the Commission, having already been working for some years on the lines recommended. It was thus encouraged to develop its plan. Some two years later a second pamphlet, known as *The A B C Scheme*, was published. This went into greater detail, and suggested a specific allocation of responsibility for the diagnosis and treatment of cancer in a region comprising London and the Home Counties.

A Co-operative Plan

In the absence of any indication as to the official attitude towards these proposals, and as to the probable future national organization under the Cancer Act, the Governors of the Royal Cancer Hospital, acting on the advice of their medical committee, decided to expand the internal organization of the hospital, and to proceed with its plans for collaborating with a number of other special hospitals in cancer diagnosis and treatment.

This decision was prompted partly by a desire to place the exceptional resources of the hospital for diagnosis, treatment, teaching, and research at the disposal of the patients and staffs of other hospitals, and partly by a desire to obtain a larger number of cases of the less common forms of cancer both for purposes of research and in order that current methods of treatment might be tested, developed, and improved. Negotiations were therefore opened with the following hospitals, most of which had been co-operating with the Royal Cancer Hospital in an unofficial manner for a number of years: the Brompton, the Chelsea, the Gordon, the Princess Beatrice, the Royal Free, the Royal London Ophthalmic, the Royal National Nose, Throat, and Ear, and the West End Hospital. A general procedure agreeable to all was evolved.

Outline of General Procedure

The patients referred by the co-ordinated hospitals are examined at a consultation clinic at the co-operating hospital by a team comprising a physician and/or a surgeon and a radiotherapist, often with a clinical research assistant in attendance. The main lines of treatment to be adopted are laid down, and the full resources of the whole group of hospitals are available for the patients. Surgical treatment is usually carried out at the co-operating hospital, but patients may be transferred freely from one hospital to another for surgery, radiotherapy, or chemotherapy, according to the location of the equipment indicated or to the facilities most suited for the purpose.

In order still further to promote harmony and good will certain subsidiary arrangements have been made as follows. All beds in the Royal Cancer Hospital have been pooled, and all members of the cancer team—physicians, surgeons, and radiotherapists—have equal privileges in the admission of patients. Members of the staffs of some of the special hospitals co-operating have been appointed to the staff and medical committee of the Royal Cancer Hospital. This arrangement is reciprocal. A Co-operating Hospitals Committee has been set

up under the chairmanship of Lord Horder to co-ordinate the cancer work in the group of hospitals and to advise as to its future expansion.

Functions and Form of the Service

Such then, in outline, is the (Experimental) Cancer Service evolved by the Royal Cancer Hospital in accord with the general principles enunciated by the National Radium Commission. It is designed to perform a dual function. First in relation to the sufferer, by placing freely at the disposal of the staffs and patients of co-operating hospitals all resources of experience, skill, and apparatus in the group. Secondly in relation to research, by furnishing the clinician and research worker with a volume of material of all types of cancer, and especially of the more uncommon types dealt with in numbers by the special hospitals. This allows of the investigation of the course of malignant disease in various stages of development and in every part of the body. Incidentally the service is also invaluable from an educative point of view in that it provides data for refresher courses and for the advanced instruction of post-graduate students.

In form the organization fulfils the essential requirements of a co-operative cancer service. It might well be taken as a pattern for remodelling some other cancer services, since it provides for the examination, diagnosis, and planning of treatment of the patient by a team of experienced men, and offers to patients of the group the advantages of being treated at a well-equipped irradiation centre by experienced radiotherapists. Moreover it provides adequate samples of malignant disease for investigation and research. The number of new cases seen for diagnosis and treatment per annum by the services has already passed the 2,000 mark (which approximately represents the normal incidence of cancer in a population of two millions). Further expansion is at present limited by the number of beds that can be made available.

An important feature of the service is that it has no geographical limits, but is designed to deal with all forms of cancer, including the more uncommon forms which are selected for specialized treatment at the special hospitals, whatever the origin or domicile of the patient may be.

TRANSFER OF ASLIB MICROFILM SERVICE

Since the information contained in scientific and technical periodicals is often of vital importance to research, the cutting off, in the early days of the war, of normal supplies of European journals presented grave problems. To meet these difficulties Aslib (the Association of Special Libraries and Information Bureaux), with the help of the Royal Society, the Rockefeller Foundation, and British industry, organized a microfilm service in April, 1942, to supply, in microfilm or paper enlargements, copies of scientific and technical periodicals published in Germany and countries occupied by Germany during the war years. The service was used by the British and American Governments, by more than 300 scientific institutions and research stations in Great Britain and the Empire, and, under a special agency arrangement, by several hundred institutions in the United States. The library of master negatives accumulated for the purpose contains some 14,000 separate issues of approximately 500 titles, equivalent to a total of over a million copies.

The Aslib Microfilm Service also undertook, on behalf of the British Council, the supply of microfilm copies of British periodicals to China while that country was cut off from ordinary surface transport. The proportions of this scheme grew until during the last year some 170 periodicals were regularly microfilmed and six positive copies of each were flown to China. Chinese scientific and cultural organizations, with the help of 100 microfilm projectors set up in about a dozen reading centres, have been able to keep in touch with developments in the outside world.

The end of the war reduced the demand for the special functions the Aslib Microfilm Service had been set up to fulfil, and it became evident that the demand for documentary reproduction as an aid to science and learning, though potentially great, needed further time for development in Great Britain. A scheme for the rehabilitation of medical libraries in Europe was then brought forward by the Royal Society of Medicine. Aslib has agreed, therefore, to the transfer of the Microfilm Service to medical uses and, by arrangement with the Royal Society of Medicine, the Aslib Microfilm Service became on Jan. 1 an integral part of the Central Medical Library Bureau of the Royal Society of Medicine. Requests for copies from existing master negatives and for copies of individual references should be addressed to Aslib, 52, Bloomsbury Street, London, W.C.1.

RESEARCH IN BLOOD DISEASES

The trustees of the Lady Tata Memorial Fund invite applications for grants and scholarships for research in diseases of the blood, with special reference to leukaemia, in the academic year beginning on Oct. 1, 1946. Grants of variable amount are made for research expenses or to provide scientific assistants to senior workers. Scholarships are awarded as personal remuneration; their normal value has been £400 per annum for whole-time research, with proportionate adjustment for work on a part-time basis, where this is approved. The grants and scholarships are open to workers of any nationality, and in any country in which it will be possible to make payments in the coming academic year. The available information on this point, regarding particular countries outside the British Empire, will be supplied to intending applicants on request. Applications must be submitted before March 16, 1946, and the awards will be announced by the trustees in June. Further particulars and forms of application may be obtained from the secretary of the Scientific Advisory Committee, c/o the Medical Research Council, 38, Old Queen Street, Westminster, London, S.W.1.

SHORT-SERVICE COMMISSIONS FOR SPECIALISTS

A CALL FOR VOLUNTEERS

The Central Medical War Committee has been informed that, on the recommendation of the Medical Personnel (Priority) Committee, it has been decided that specialists and graded specialists recruited to the medical branches of the Forces will now be accepted for short-term employment for eighteen months if they were born before July 1, 1915. The commissions held will be known as "specialist short-service emergency commissions." They will be granted to those specialists and graded specialists (born before the above date) who are called up under the compulsory recruitment procedure and to those above military age (born before July 1, 1905) who offer their services voluntarily.

The Central Medical War Committee is instructed to carry out specialist recruitment to the extent necessary for the replacement of serving specialists who are due for release in Class A or recommended for release in Class B and who cannot be released unless substitutes are provided. The Committee has been making every effort to increase the yield of specialist recruits but with only limited success, and already there are a considerable number of Service specialists whose release in Class A is being retarded. The Committee therefore appeals for offers of voluntary service, and hopes that specialists above military age who might hesitate to offer their services for an indefinite period will be prepared to accept the new short-service commissions. Officers holding these commissions will be returned to the United Kingdom before the end of their 18 months' service, and will be eligible for 28 days' leave on full pay on completion of their service.

Volunteers should communicate with their Local Medical War Committees, or, in the London area, with the Committee of Reference at B.M.A. House, Tavistock Square, W.C.1. The need is urgent, and it is hoped that there will be an immediate response to this appeal in order that serious hardship to the Service specialists due for release may be prevented.

The short-service commissions will not be granted to general duty officers, but doctors will no longer be recruited compulsorily for general duty unless they were born on or after July 1, 1915. Civil direction is now applied only to men doctors below the age of 31. Women doctors are no longer liable to direction.

APPOINTMENTS UNDER CONTROL COMMISSION FOR GERMANY

An announcement in our advertisement columns this week invites applications from medical officers of health for service under the Control Commission for Germany. These officers, who will for the present serve at H.Q. of Corps, Districts, and Provincial Detachments, will be responsible for carrying out the policy of the Commission in the supervision of the German local organizations in charge of the health of the civilian population—including the medical examination and "dusting" of returning refugees—and for the health (including hospital care) of displaced persons, for which U.N.R.R.A. teams will come under their supervision. It will be their work to build up the German health services from the chaotic state in which they were found after capitulation, and their duties will be concerned with: repair and rebuilding of hospitals; staffing and organization of hospitals; reopening of medical schools and bacteriological laboratories; reorganization of nursing services and health visiting and welfare services; reopening of maternity and child welfare clinics and tuberculosis sanatoria; immunization and vaccination; bacteriological tests of water supplies; and sewage disposal. They will advise on and direct the notification of births and deaths, the control of infectious diseases, and the supply of drugs. They will supervise the B.R.C.S. and, generally, the plans for dealing with epidemics, stores, hospital expansion, etc.

Nova et Vetera

MEMORIES OF CLIFFORD ALLBUTT

Many recollections of Sir Clifford Allbutt by his old students were given at a meeting of the Section of the History of Medicine of the Royal Society of Medicine on Nov. 7. The occasion was the fifth of a series of papers on Cambridge medical history by Sir Walter Langdon-Brown, who, in this last of the series, took Clifford Allbutt as the exemplar of the transition from 19th to 20th century medicine. Unfortunately Sir Walter's state of health did not permit him to read the paper himself, and it was read in his absence by his successor in the Regius Chair at Cambridge, Sir Lionel Whitby. One perhaps forgotten episode in Clifford Allbutt's life was his three years as a Commissioner in Lunacy, when he settled in Kensington among an artistic coterie which included G. F. Watts, Lord Leighton, Burne-Jones, and others. Next door to the Allbutts at that time lived Mrs. Russell Barrington, nicknamed the "Duchess of Kensington," who made Clifford Allbutt the hero of her novel *St. Luke of the Nineteenth Century*. It has often been stated that, at a much earlier period than this, George Eliot drew the portrait of Lydgate in *Middlemarch* from Clifford Allbutt; certainly she knew the Allbutts well.

Sir Walter Langdon-Brown recalled the inaugural lecture at Cambridge in 1892: "His handsome, dignified, well-groomed appearance made an instant appeal. Still more impressive was the substance of the lecture, blending science with the humanities, which gave me a new outlook. It was really a decisive influence in my life." Speaking of Allbutt's last years, he said that, apart from the handicap of deafness, he never, even physically, seemed to grow old until quite shortly before his death. He would refer humorously to age as "that state of mind which seems mellow wisdom to its owner, but appears to the younger generation as senile obstinacy." Sir Walter thought it would be a misfortune for Allbutt's memory if Orpen's portrait of him in the Fitzwilliam Museum should come to be regarded as an authentic likeness, for it was almost a caricature. When taxed with this Orpen said, "Well, to tell the truth, I was not interested in the old man"—a criticism of the artist rather than of the subject. It was extraordinary, said Sir Walter Langdon-Brown, how Allbutt managed to keep up with the doings of his old alumni. Any one of them who did a good piece of work would probably receive a letter in a curious script which, when deciphered, would prove to be a charmingly phrased note of appreciation from the Regius Professor. His fastidious taste in literature made him a stern critic of his own writings. The fact that they read so smoothly and pleasantly was because he always wrote three drafts before sending them to the printer.

Allbutt's philosophical attitude was exemplified in a letter written to Sir Walter not very long before his death in which he said that he knew rather than felt that he was approaching the end of a long life. The last time they dined together Allbutt said, "It isn't dying I mind; what I fear is incapacity"—a disaster which he was spared. He was a deeply religious man and preached not infrequently in St. Edward's, the little church in the market-place at Cambridge. He was greatly attracted towards the Society of Friends, but he was accustomed to say, "How can I leave the Church [of England] in which I was born, baptized, and married, with which all my life has been inextricably bound up—tendrils everywhere?"

After the paper other members of the Section spoke of their own contacts with Clifford Allbutt. Dr. Ashworth Underwood mentioned his wonderful library, and deplored the fact that his books had not been brought together as a great memorial. Dr. Alison Glover, who said that he believed he was the oldest student of Allbutt present, recalled his constant kindness, his advice when he presented his M.B. thesis—"My boy, read Macaulay"—and his appearance—the aquiline nose, the piercing eyes, and the great dignity. This impression was carried further by Dr. R. J. V. Pulvertaft, who likened Allbutt coming into the classroom to Moses coming down from the mount. Another who claimed the honour of being a student of Allbutt, though too old actually to learn from him at Cambridge, was Dr. Parkes Weber; he was only in time to read his M.D. thesis before him. Comparing Allbutt with Osler, he found the latter a little more stimulating, though Allbutt took just the same kind of interest. One of the points to be stressed was his extreme kindness, even when he criticized.

Sir Henry Tidy said that it was almost indecent for an Oxford man to break into these proceedings, but he actually met Allbutt before he went to the Regius Chair at Cambridge. He was then a comparatively young man, though, with his beard, he appeared to be of patriarchal age to a young boy; but always he had the extraordinary ability of making himself seem to be of the same age and standing as the person with whom he was talking. The pomposity of age was never his, and he combined dignity with an extraordinary feeling of friendship. Dr. H. P. Bayon recalled an occasion when, reading a paper, he described typhoid as a "clinical entity" and elicited the remark from Allbutt, "My dear fellow, never mention anything as an entity which you cannot put on a plate on a table." A letter written by Allbutt in 1922 was produced by Dr. H. J. Norman, in which Allbutt said of his contemporary Maudsley, "I could never read his books for long nor often, for what we may, for brevity, call the spiritual side of his mind's eye was almost quite blind, so that his books are depressing and arid." He also wrote of Maudsley, "Though a most successful man, I think he said that old age was the most dismal part of life. . . . Most of us old chaps who keep fairly well find it the happiest time." The train of reminiscence was brought to an end by Sir Lionel Whitby, who knew Sir Clifford Allbutt in his later years: "His manner of teaching was that of stimulating the student to observe for himself, not the method of direct demonstration. . . . He would ask you to describe exactly what you found, and that, I have always felt, is the true way in which to teach students medicine."

The July issue of the *Bulletin of the Medical Library Association* contains a useful bibliography, compiled by Dr. J. M. Schneck, on bibliotherapy and hospital libraries (350 items).

In honour of the four-hundredth anniversary of Conrad Gesner's bibliography, *Bibliotheca Universalis*, the New York Academy of Medicine library has held an exhibition of books on medical bibliography to the end of the eighteenth century.

The Museum Book Store Ltd., 45, Museum Street, London, W.C.1, have acquired the library of the late Prof. Hans Sachs, the eminent serologist, and would send particulars to anyone interested in purchasing. The collection includes long runs of *Centralblatt für Bakteriologie, Zeitschrift für Immunologie*, etc., numerous books, and a collection of offprints and "separata" from periodical and serial publications which total over ten thousand items in 119 labelled boxes.

Reports of Societies

PUERPERAL BACTERIAEMIA AND SEPTICAEMIA

A discussion on this subject took place at the meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Jan. 18, Prof. F. J. BROWNE presiding.

Mr. JAMES WYATT introduced the two openers, whose contributions were based on work in the puerperal unit at the North-Western (L.C.C.) Hospital, Hampstead, where cases of puerperal infection have been concentrated since 1927. In 1936 a laboratory was established in the grounds of the hospital, with Dr. Cruickshank in charge, and since that time every case has had a full investigation.

Bacteriological and Clinical Pictures

Dr. R. CRUICKSHANK said that "bacteriaemia" had more than one definition. It might mean a transient invasion of the blood stream by bacteria from a local focus. But the type of bacteriaemia into which most of his cases fell was a more persistent condition, which it was often difficult to distinguish from septicaemia. In many cases of puerperal infection there was a local focus from which a seeping or spilling took place into the blood stream, and the resulting bacteriaemia was of a more persistent type than was ordinarily found. His material was derived from over 2,000 cases in all of which blood cultures had been taken, usually on the morning after admission to the hospital. He divided them into post-abortum and post-partum pyrexia; 760 patients in the course of eight years had shown the former condition and 1,265 the latter. The number of cases of septicaemia relative to those of bacteriaemia was much heavier in the post-abortum group. The first important factor was the age of the patient. A considerably higher incidence of septicaemia was shown in the age groups over 35. There appeared to be certain factors which predisposed to blood stream infections by organisms present in the genital tract. In the post-abortum group it did not seem likely that it was trauma to the genital tract which was the principal cause; the important factor was retained products. In the post-partum series a high incidence in primiparae indicated that trauma was important in the blood stream infection. There had been a decided fall in incidence since the introduction of sulphonamide treatment, except in septicaemias in the post-abortum group. A fairly high frequency of infection with *Staph. aureus* was demonstrated in the post-partum series; *B. coli* exhibited little tendency to produce septicaemia.

Dr. A. M. RAMSAY said that bacteriaemia was predominantly a feature of focus-borne infection. Cases which had no clinical or bacteriological evidence of infection constantly showed what he had termed a reactionary pyrexia; he did not know the reason for it. The problem arose as to whether retained products should be left *in situ* on the ground that by undue interference infection would be spread. In the puerperal unit a careful *via media* had been adopted in that respect and the products were removed gently if it was possible to do so. Another point was the necessity for some objective criteria by which the degree of infection might be assessed before chemotherapy was instituted; if a positive blood culture were found and chemotherapy then instituted one felt that one was cutting short an incipient septicaemia, which might not be the case. The mortality rate from puerperal septicaemia was definitely falling before the era of the sulphonamides.

A Question of Nomenclature

Mr. G. F. GIBBERD read into the openers' remarks a plea that blood stream infections should be classified into three groups: (1) a group which could be ascribed to an individual inoculation; (2) a group which gave the clinical picture of bacteriaemia, based on the fact that there were very few organisms in the blood, that they were non-persistent, and that the patient did not feel very ill; and (3) septicaemias, in which many organisms appeared in the blood for a good many days and the patient felt very ill. He believed it was a grave mistake to put patients into this grouping. Everyone would agree as to the first group. It would not be fair to regard a patient as seriously ill because she had organisms in her blood after a deliberate trauma. It was an advantage to separate the bacteriaemia following a non-repeated trauma. But all the other cases should be put into one group, and if there was objection to the word "septicaemia" some other term should be found. Septicaemia implied to the lay mind a very serious illness. Prof. Ryle was so much upset on being called to see people whose relatives thought them to be dying because they were said to have septicaemia that he declared that a distinction must be made between septicaemia and a condition in which bacteria were in the blood. Bacteriaemia, said Prof. Ryle, was not a clinical diagnosis but a laboratory finding, but he was immediately in difficulty because he had to invent a clinical disease in the case of people who had bacteria in the blood and were not very ill, and he called it "bacteriaemic fever," which did not clear the issue at all. The speaker could not accept the view that those who were not ill were essentially different from—though they were more lucky than—those who were very ill. Dr. Cruickshank had said that he regarded bacteriaemia as a spilling over into the blood stream from a focus of infection, but so was septicaemia. If the name must be changed let it give place to "blood stream infections," arbitrarily divided into mild and severe. They should not bear the names of two different diseases.

Dr. A. J. WRIGLEY said that they were asked as clinicians to say what they would do in the case of a woman who had had an abortion and was running a temperature. He had tried to recall a single case of a patient who was ill, and who, following the gentle removal of some retained products, had become very ill and died. He could not do so. Dead tissue in the uterus would inevitably give a culture medium for anaerobes, but no great trouble or illness need be expected unless the local resistance of the patient had been greatly lowered by tissue damage or loss of blood. The *welchii* organisms often appeared if looked for, and one anticipated a very serious illness, yet this did not develop.

Mr. ALECK BOURNE agreed with Mr. Gibberd that it was a dangerous thing to suggest that there was a difference between bacteriaemia and septicaemia. A bacterial count might rise from 20 to 2,000 in 24 hours, and he could not classify a case as bacteriaemia if he had no means of knowing whether, on the following day, it might not show a virulent septicaemia. Those who had the management of these cases must be allowed to treat them according to clinical indications. Dr. J. V. O'SULLIVAN spoke to the same effect. Dr. CARLYLE said that his work was in the depth of the country, where laboratory reports arrived after the battle was over. It was of great importance to decide which were trivial temperatures and which were those demanding serious attention. For many years he had had two criteria which so far had never failed him. The first was headache and the second was a subjective sense of temperature instability, the patient feeling intermittently hot and cold. When he found these conditions, with a rise in temperature, he took drastic measures.

Dr. MALCOLM DONALDSON said that he was taught as a student that septicaemia was a condition in which the organisms increased and multiplied actually in the blood, though whether it was possible to discover that they did so he did not know. Prof. F. J. BROWNE said that he had never made a distinction between puerperal bacteriaemia and puerperal septicaemia. They were the same thing, and he thought the openers had introduced an unnecessary complication. The discussion was continued by Dr. J. M. ALSTON, Dr. MEAVE KENNY, Dr. FLEW, Dr. J. S. MCVINE, and others.

Openers' Replies

Mr. JAMES WYATT said that he agreed with Mr. Gibberd and Mr. Bourne that the clinical picture was the important thing, and it was interesting that there did occur from time to time a temporary growth of organisms. They were still in doubt as to whether this temporary invasion was due to the virulence of the organisms or the lowered resistance of the patient; no doubt that would one day be determined. His own experience

was that the two factors of major importance in dealing with puerperal cases were the pulse rate—which was more important than the temperature chart—and a characteristic dry and furred tongue.

Dr. CRUICKSHANK said that he was quite unrepentant. He still thought "persistent bacteriaemia" a good term, and he believed that the followers of the most conservative branch of medicine —the surgeons—were on his side. Some would suggest "mild blood stream infection," but why use four words instead of two? This term "bacteriaemia" did describe the type of the infection. So long as the infection remained local, spilling over into the blood stream, it was a bacteriaemia, but as soon as there was a generalized instead of a local infection (he did not think the organisms multiplied in the blood stream itself, but they did multiply in many foci of the body) it became a septicaemia. Septicaemia was a condition in which there was a progressive increase in the number of organisms in the blood stream.

Dr. RAMSAY said that there was no doubt that the diagnosis of septicaemia was essentially a clinical one. They had as a unit been doing routine blood culture on all cases since 1936, and therefore they had findings as regards blood cultures which anyone not doing such routine work would not get, and they could not honestly include all these cases as septicaemias. The qualitative count was a rough guide.

THE PHILOSOPHY OF MEDICINE

An introductory lecture entitled "The Search for a Philosophy of Medicine" was delivered on Jan. 22 in the Pollock Memorial Hall, Edinburgh, by Dr. DOUGLAS GUTHRIE, Lecturer on History of Medicine, University of Edinburgh. The chair was occupied by Principal Sir John Fraser.

Dr. Guthrie referred to the age-long quest for a theory or basis of medical knowledge and to the sects and "systems" which had been evolved from time to time in answer to this inquiry. The physicians of the Hippocratic school were the first to recognize disease as a natural phenomenon, neither sacred nor magical, and since their day medicine had been a battle-ground for all manner of theorists who were unwilling to follow the simple Hippocratic rules. Throughout a long career medicine had stood midway between science and philosophy and had been deeply influenced by current views in both those departments of knowledge. The philosophy of Descartes led to the appearance of a mechanical school of medicine, the iatro-physicists and iatro-chemists of the seventeenth century. It was Sydenham who showed a better way, by insisting that medicine could never become entirely scientific. There would always be an "art" of medicine, that elusive and unknowable factor which must be simply accepted.

The two great trends of present-day medicine, socialization and specialization, had added considerably to the complexity of the problem. Practice tended to outweigh theory, and the cultural basis of medicine was apt to be lost in a mass of technical detail. There was great need for a restatement of fundamental truths; in other words, for a philosophical approach to the study of medicine. The best, and indeed the only, means of finding such a basis was through a study of the past—the difficulties of the pioneers, the rise and progress of medicine from the earliest times to the present day.

HOSPITAL PHARMACY

At a meeting of the Society of Medical Superintendents (London and Home Counties Branch) Mr. R. H. HENRIKSEN, President of the Guild of Public Pharmacists, spoke on "Hospital Pharmacy." He recalled the events leading up to the formation of the Pharmaceutical Society in 1841 and the granting of its Royal Charter in 1843, and gave a brief survey of the statutory duties imposed on the Society by the Pharmacy Acts of 1852, 1868, and 1898, and the Pharmacy and Poisons Act, 1933. The Society maintains two Registers—one of chemists and druggists, and the other of pharmaceutical chemists, admission to each being confined to those who have passed the appropriate examinations and complied with other conditions. Only persons whose names appear in one of these Registers may use any of the following titles: Member of the Pharmaceutical Society, pharmacist, dispensing chemist, dispensing druggist, chemist and druggist, druggist, or (if used in connexion with a retail business) chemist. The titles pharmaceutical chemist and pharmaceutist are reserved for use by those whose names appear in the Register of Pharmaceutical Chemists.

Mr. Henriksen next considered the functions of the Pharmaceutical Society, with particular reference to its research laboratories and college, which is a School of the University of London, and described the training of the pharmacist. Discussing the proper functions of the hospital pharmacist, he pointed out that many hospitals did not in fact utilize fully the services of their pharmacists, owing to lack of adequate accommodation, equipment, or staff. Since every advance in medicine meant more work for the pharmacist it would be essential, to ensure a satisfactory hospital pharmaceutical service, not merely to restore staff and equipment to pre-war levels but to reach the much higher standards now necessary, and attention must be given to the serious problem of bringing into hospital service an adequate number of the highly trained pharmacists who were showing an increasing tendency to take up other fields of work because of the better salaries, conditions of work, and prospects offered in other branches of the profession.

The chief points in the report on the development of the tuberculosis services which was presented to a recent meeting of the Joint Tuberculosis Council were: (1) tuberculosis work should be organized regionally, joint boards having executive powers being set up for the purpose; (2) the areas served by the boards should be approximately the same size as the new regions under the projected National Health Service, but local administrative units should serve a population of about 250,000; (3) the environmental and preventive aspects of tuberculosis work should not be divorced from the clinical; (4) the senior clinical tuberculosis officer for each region should have right of access to the joint board; (5) there should be opportunities for promotion which would provide incentive for the best clinicians to devote themselves to the work; (6) the clinician in tuberculosis should be recognized as a specialist and accorded appropriate rank and pay. At the same meeting the council approved the final draft of a memorandum of advice on Mantoux conversion of hospital and sanatorium staffs. Copies of this and of the Development Committee's report may be had from the hon. secretary of the Council, Dr. Norman England, 1, Becket Street, Oxford. Dr. D. P. Sutherland, Manchester, was nominated as next year's chairman.

A new medical society has recently been formed in Buckinghamshire called the Mid-Bucks Medical Society. The first meeting of this society took the form of an inaugural dinner at the *Bull's Head*, Aylesbury, at which some 60 founder members attended. An address was given on the purposes and functions of medical societies by the president, Major-Gen. Sir Heneage Ogilvie. The chairman of the Society is Dr. J. W. Craig, of High Wycombe, and the treasurer and secretary Mr. W. D. Lovelock-Jones, of Amersham.

U.N.R.R.A.'s DENTAL WORK

U.N.R.R.A.'s dental consultant in London is Lieut.-Col. G. A. Nevitt, Public Health Service, U.S.A. With his assistance the Health Division has arranged for the following dental services to be provided. All displaced persons either in refugee camps in the Mediterranean area (Palestine, Egypt, and Italy) or in displaced persons camps in Germany and Austria who desire dental treatment may obtain extraction, insertion of permanent fillings, treatment of diseases of the mouth, and replacement of missing teeth where such replacement is essential for the maintenance of health and efficient mastication. The dental service for displaced persons in Palestine and Egypt has been in operation for over two years. Dental care for about a million displaced persons in Germany is now one of U.N.R.R.A.'s problems. A programme for these people has been in operation for more than six months, and there are six U.N.R.R.A. dental administrators (dentists with public health experience) in Germany, assisted by displaced persons with dental experience, and where these are not available German personnel is employed. Dental aid is being given by U.N.R.R.A. in Greece; 100 complete dental units and supplies have been dispatched, and more will be sent later. Six dental scholarships have been arranged for Greek dentists for post-graduate work in America and Great Britain, and it is hoped to provide similar services in other places where U.N.R.R.A. works. Lieut.-Col. Nevitt is preparing to go to Poland on a combined lecture tour and survey to advise on the dental situation and the necessary programme for dental work.

Correspondence

Cardiac Massage

SIR,—Mr. Hamilton Bailey (Jan. 5, p. 29) does well to insist on the vital importance of speed in commencing the treatment that really matters in cases of cardiac failure during operation, and on the futility and danger of wasting time on artificial respiration. When, however, he couples the injection of adrenaline with artificial respiration as merely another means of wasting precious time I must venture to join issue with him. I consider it a positive danger. We take infinite trouble when injecting a local anaesthetic in a patient with toxic goitre to avoid injecting the least quantity of adrenaline into a vein for fear of causing the heart to stop in ventricular fibrillation, and yet we are urged by some authorities to inject heroic quantities of this highly dangerous drug into a heart that has already stopped. In my view any success that may have attended such treatment is due to the mechanical prick of the needle stimulating the ventricular wall, combined with a failure to inject any adrenaline into the cavity of the ventricle. Believing this, I have long abandoned the use of adrenaline as positively dangerous, but I regard the insertion of a needle into the wall of the ventricle as the quickest method of inducing the arrested heart to resume its beats. The needle need not be a hypodermic one; a long fine skin needle is equally effective. It can be thrust into the ventricle through the chest wall, or through the diaphragm if the abdomen is already opened, without more than a few seconds' delay. If the puncture fails cardiac massage through the diaphragm can be started at once, but I have found more than once that the prick has been enough to start the heart beating again without any need for massage. Where, as in thyroid operations, one has no intention of opening the abdomen this is an obvious advantage.—I am, etc.,

Manchester. JOHN MORLEY.

Paralytic Ileus

SIR,—As one who has been keenly interested in the prevention and cure of post-operative complications during the past fifteen years may I make some comments on paralytic ileus, which has recently been under consideration. It is indeed encouraging to see that general interest has advanced beyond treatment to the preventive stage. Mr. J. T. Chesterman and Dr. W. J. Sheehan are to be congratulated on their paper (Oct. 20, 1945, p. 528), which has reawakened interest in this most important condition. The periodic exchange of views on these old but consistently recurring problems does nothing but good in helping to clarify our ideas.

I cannot help feeling that while their practice of using morphine as a preventive of paralytic ileus is sound, their explanation of its action (Mr. J. T. Chesterman, Nov. 24, p. 740) is not the whole story, for they and Prof. J. H. Burn (Nov. 3, p. 622; Dec. 8, p. 817) are almost exclusively preoccupied with its local action on the bowel. Let us first of all consider some of the causal factors in paralytic ileus. The predisposing factor is the nervous patient; the highly strung, imaginative, sensitive patient; the frightened patient; the patient whose increased sensitivity is not combined with and tempered by an equal increase in courage. The dim-witted yokel or bovine country clod never develops ileus, not having enough imagination to realize what is happening or to be afraid. Nor does the highly intelligent and sensitive but highly courageous individual usually, though he might be very frightened. The exciting causes are pain, especially if severe and prolonged without relief or remission; infection, especially if intraperitoneal and in the mid- or upper abdomen; dehydration by vomiting or sweating or deprivation; physical exhaustion and starvation; exposure to the elements; and, most important, poor anaesthesia and bad surgery. The latter group includes rough handling of tissues, especially viscera; extensive cooling and drying of peritoneal surfaces; severe loss of blood before, during, or after operation. The precipitating cause is the failure to prevent slight and early post-operative distension from developing into frank paralytic ileus.

While Mr. Chesterman and Prof. Burn have quoted conflicting views on the local action of morphine on the bowel, I feel that they have both almost completely ignored the central narcotic effect of this most valuable drug. Surely, as nervousness and fear, fatigue and pain are such important factors in the production of ileus, the liberal administration of morphine will be most beneficial in its prevention and cure. In planned operations it is essential to ensure sound sleep and alleviation of apprehension prior to operation. Apart from reassurance there is little else we can do about the predisposing factors. As regards the existing factors, pain must be abolished so far as possible before, during, and after operation. It is very wrong for the doctor or nurse to withhold morphine when it is needed, on the specious grounds of the risk of drug addiction. This will not develop with the generous use of morphine for the first few days following operation. Once the surgeon has done his best operatively, sleep and freedom from pain are of inestimable value in promoting speedy recovery. The other exciting factors must be dealt with so far as is possible before operation, and perhaps during and afterwards also. Good anaesthesia with careful and gentle handling of tissues are of supreme importance. As regards the precipitating cause, eternal vigilance and prompt action are the answer here. To delay until the ileus is well established is to court disaster. While morphine may have some local action in preventing and overcoming ileus, I have used it more for its central effect, in association with physostigmine, which is advocated by Prof. Burn. But I have found synthetic physostigmine (prostigmin) more effective, and during the past ten years have had only one failure with the scheme of treatment I described earlier on (*Lancet*, March, 1940). This combines physiological stimulation with the "morphine and rest" scheme. My system is to inject prostigmin 1 c.cm. (0.5 mg.) subcutaneously, repeat it in half an hour, and follow with an enema saponis in another half-hour. The prostigmin sensitizes the bowel and the enema pulls the trigger, with a resultant expulsion of flatus fit to blow the house down. Then morphine (or omnopon) is given to ensure a sound sleep for several hours, after which the patient looks and feels quite a different being. As Prof. Burn and Mr. Chesterman mention, prostigmin may produce nausea and vomiting, even abdominal colic, and sometimes some collapse with fall in blood pressure. For the nausea and colic Prof. Burn advocates a smaller dose. I have tried giving 0.5-c.cm. (0.25-mg.) doses of prostigmin at quarter-hourly intervals in debilitated patients, thus avoiding the untoward secondary effects, but usually with less success in overcoming the ileus. Anyhow, these unpleasant reactions are short-lived and seldom severe, and of only minor importance compared to the benefit gained as regards the ileus. To prevent collapse in ill patients coramine or anacardone (nikethamidum *B.P.*) is administered when necessary. The prognostic sign relied upon beforehand is not so much the degree of distension or size of the abdomen as the tension of the distended abdomen—i.e., the more tense, the more serious and the more difficult to treat successfully. Also the success of treatment is gauged not so much by the amount of faeces and flatus passed as by the increased softness of the abdomen afterwards.

It may be, as Mr. Chesterman says, that prostigmin used thus does not produce "any true peristalsis" or "lasting increase of tone," though it temporarily causes "marked intestinal contractions," for it is sometimes found necessary to repeat the course of treatment daily, or perhaps more than once each day, for several days. (After that enemata alone usually suffice.) And perhaps he will attribute the success that has invariably followed (except for one case) to the associated use of morphine, in spite of the evidence quoted by Prof. Burn. But I know that my scheme has worked successfully during the past ten years. My use of morphine is in agreement with Mr. J. J. Robb (Dec. 29, p. 938), who says: "My own belief in morphine, not as a specific but as an almost essential adjunct in the treatment of ileus, remains unshaken."

Perhaps brief reference might be made to the other forms of treatment still described in many textbooks, though archaic and mostly quite ineffectual in true paralytic ileus. Assorted aperients and/or enemata are usually quite useless. Passage of a flatus tube, still the delight of some sisters and nurses, cannot do more than deflate the rectum and lower pelvic colon at most, and carries grave risks of perforation of the distended

and thinned bowel wall, the acute kinking of which prevents its further passage. Repeated fractional subcutaneous injections of pituitrin and/or eserine (physostigmine) have been equally inefficient, in my experience, as prophylactic or cure. Pituitrin by intravenous injection produces violent contractions of the bowel by direct stimulation of plain muscle, but also most severe and dangerous collapse of the ill patient. Fortunately ileostomy is seldom done nowadays, for rarely can more than a foot or two of bowel be deflated, and the struggle to close the abdomen over the still-distended gut is most shock-producing to the patient. Among more recent methods of treatment, gastric suction through the Miller-Abbott tube has its supporters. But I feel that it deals with only one manifestation of the paralytic ileus—the regurgitation of small-bowel contents to the stomach, and vomiting. Admittedly this fluid is most toxic to the patient if absorbed, and its removal is both a boon and a blessing. Furthermore, with gastric suction going on, fluid can be taken by mouth to help overcome the tendency to dehydration and to act as a gastric lavage. Also, and most important, such gastric suction saves the patient the distress and fatigue of vomiting. And one must replace the fluid and chloride by intravenous saline administration to prevent dehydration and alkalosis. But in true paralytic ileus I do not believe that peristalsis will begin spontaneously after the stomach has been emptied, and so carry the tube down to the jejunum and ileum.

So one has still to deal with the functional intestinal obstruction, which, in my experience, is best done by the combination of prostigmin, an enema, and morphine.—I am, etc.,

Mount Vernon Hospital, Northwood. ALAN SHORTER.

Transverse Abdominal Incisions

SIR,—In the *Journal* of Jan. 12 (p. 63) I am reported to have stated at the meeting of the Section of Surgery of the Royal Society of Medicine on Jan. 2 that "the transverse incision had the disadvantages that it took a long time to make . . . and left a weak abdominal wall, so that hernia was prone to arise afterwards." I should be grateful if you would permit me to contradict this statement, as it is contrary to my experience and my teaching concerning this valuable type of abdominal incision.

There is obviously no standard method of opening the abdomen, and the choice of incision must necessarily depend upon many factors, such as the organ to be investigated, whether the disease is acute or chronic, whether speed is essential or not, the age and build of the patient, the accuracy of the diagnosis, the presence or absence of scars or herniae of previous operations, and so forth. In my opinion vertical incisions would appear to be indicated in the abdominal surgery of infancy, when the diagnosis of the case is uncertain, where for one reason or another speed is imperative, and for acute perforations and peritonitis. Transverse or oblique incisions are, however, to be preferred for operations upon the gall-bladder and bile ducts, pancreas, spleen, and colon, for recto-sigmoid resections, for minor pelvic operations, for appendicectomies, and for such procedures as gastrojejunostomy and partial gastrectomy.

Transverse incisions are of two distinct types: (1) muscle-dividing, such as Maylard (1907), and (2) muscle-retracting, such as Pfannenstiel (1900). Transverse incisions have the following advantages when compared with vertical incisions: (1) The scars are less visible, as they are made in Langer fissure lines; (2) exposure and drainage (when required) are both better, and less retraction is necessary; (3) closure of the wound (with interrupted silk sutures) is easier and more secure; (4) chest complications are rare; owing to the comparative absence of pain with such wounds the patients are not afraid to cough and are able to get out of bed a day or two after a major operation; (5) ventral hernia is seldom encountered.

It is nevertheless true that transverse and oblique incisions through the abdominal wall take longer to make and to close, and that bleeding is more profuse and troublesome than is the case with vertical incisions. There is, however, no truth in the statement that sectioning one or both rectus muscles is followed by some anatomical or physiological impairment of the abdominal musculature, as I have been able to satisfy myself that the muscles when healed simply present an extratendinous intersection without any functional disablement.

The criticism that should infection follow the use of transverse or oblique incision such complications as dehiscence of the wound, evisceration, and ventral hernia are relatively common events is certainly not substantiated by a careful follow-up of my own cases or by a study of the published figures. V. L. Rees and F. A. Coller (*Arch. Surg.*, Chicago, 1943, **47**, 136) in 225 consecutive epigastric incisions had only one case of herniation and no case of dehiscence. A. O. Singleton (*Proc. Inter-State post-grad. med. Ass.*, N. Amer., 1944, p. 101), in his review of 9,000 consecutive abdominal operations, found that in the first group of 3,147 cases in which transverse incisions were employed there was only one case of wound disruption (0.031%) and 29 herniae (0.92%), whereas in the second, of nearly 6,000 cases, in which vertical incisions were used there were 60 wound disruptions (1.0%) and 131 post-operative herniae (2.2%).

During recent years I have employed Maylard's epigastric rectus-dividing incision (*British Medical Journal*, 1907, **2**, 895), making the skin incision somewhat crescent-shaped with convexity upwards, in a large number of operations upon the stomach, duodenum, and pancreas, with the most gratifying results, and I have yet to see a case of functional impairment of the rectus muscles or of ventral hernia following the use of this valuable incision.—I am, etc.,

London, W.1. RODNEY MAINGOT.

Post-haemorrhagic Blindness

SIR,—Sir Adolphe Abrahams's views (Jan. 12, p. 65) referring to Dr. James Black's interesting article on blindness after haematemesis coincides with personal experience on this subject. Having had occasion to consult the literature for purposes of publications to which Dr. Black so continually referred one must admit that it was not very illuminating, especially from the pathological point of view. Although many theories have been advanced—toxaemia, anoxaemia, visceral reflex action, etc.—as to the considered cause of this phenomenon, could not its production be related in some way to associated vascular degenerative change?

I do not know what the average age incidence of all recorded cases is, but it seems an unlikely development in younger people suffering from haemorrhage of any kind. No cases were recorded in the 1914–18 war (Macrae, A., *Clin. J.*, 1928, **57**, 37), and Sir A. Abrahams has drawn attention to the fact that examples have not been forthcoming from military surgeons. The meridian of life or after is probably the era when this rare complication manifests itself. Dr. Black's case was that of a man aged 53, Sir A. Abrahams's were both middle-aged women, while mine was in a man of 55. One therefore wonders whether or not some simple explanation, such as loss of elasticity of the retinal vessels in association with their sudden emptying and sticking together of their walls, could not play a major part in this unusual complication.

I should like to endorse Dr. Black's final commendation as to the adoption of routine inspection of the fundi in order that all possible steps may be taken to overcome, if possible, such a tragic calamity.—I am, etc.,

Edinburgh. C. KELMAN ROBERTSON.

SIR,—Dr. James Black's case of blindness following haematemesis (Dec. 29, p. 920) gives an interesting record of this rare event. Terson, in 1922, reviewed 250 published cases. A true perspective of the rarity of this condition was clearly shown to me when I searched through the records of the Royal Eye Hospital, London, in 1936. I was then collecting cases of sudden blindness due to the occlusion of the central artery of the retina and its branches. The records of all patients who attended at the hospital for six years (1931–6) were examined and only one case was found of unilateral blindness following a haematemesis. During the same six-year period 54 cases of occlusion of the central artery of the retina and its branches were seen at the hospital, and 205 patients who were suffering from thrombosis of the central retinal vein and its tributaries. The hospital attends, on the average, to 30,000 new patients a year. This investigation of hospital records demonstrated that only one case of post-haemorrhagic blindness was seen at an eye hospital among over 150,000 new patients. Most observers now agree that marked constriction (narrowing of the retinal arteries) is the most prominent feature of the ophthalmoscopic

picture of this disease when seen soon after the attack of sudden blindness.

Pallor of the retina, small retinal haemorrhages, and occasional retinal oedema and papilloedema are other inconstant features. In all cases optic atrophy with very narrow retinal arteries is the final late result. This ophthalmoscopic picture is so similar to the one seen in cases of occlusion of the central artery of the retina due to thrombosis or embolism of the retinal arteries that one is led to conclude that sudden spasm of the retinal artery followed by thrombosis is probably the most common cause of post-haemorrhagic blindness. In the treatment of post-haemorrhagic blindness most ophthalmologists assume that the central artery has suffered from a sudden occlusion, and the measures adopted are: (1) to raise the general blood pressure and (2) to lower the intraocular pressure of the eye with massage of the eye, miotics, and paracentesis of the eye.

Subconjunctival injections of acetylcholine might also help to relieve the angiospastic condition of the retinal circulation.—I am, etc.,

London, W.1. J. MINTON.

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SIR,—On Nov. 29, 1944, a man aged 54 years was fastening the gates and doors of the foundry in which he was employed as night watchman. He tripped over a plank and fell, injuring his left leg. There was a fracture of the left tibia at the lower third. This was treated. On Jan. 29, 1945, while still in hospital, he had a severe haematemesis for two days and melaena for several days. He noticed his sight failing. By Feb. 13 he was completely blind. I examined him on Feb. 17 and found that he had double optic atrophy. I was asked by his employers' insurance company to report on his case as he was starting a claim against his employers maintaining that the blindness was the result of the accident to his leg. He was admitted to the Royal Victoria Eye and Ear Hospital, Dublin, for the purpose of investigation under my care.

His Wassermann reaction was negative; *x*-ray examination of skull revealed no intracranial lesion and the general contour of the skull was normal. The radiological findings as regards the gastro-intestinal tract indicated almost complete stenosis of the pylorus. The general appearance according to the radiologist was typical of a malignant lesion. During the week he spent in this hospital there was frequent haematemesis. He died a few days later.

The medico-legal aspect of this case is interesting. One is left wondering whether the optic atrophy had been present for some time as a result of secondaries in the brain and whether the loss of blood was the final decisive factor in producing blindness in an already defective vision.—I am, etc.,

Dublin. HARRIS TOMKIN.

Homosexuality

SIR,—Public opinion, or at least that part of it which makes any pretence of serious thinking, has been disquietened by a recent case in which a scoutmaster was sentenced to fourteen years' penal servitude for immoral conduct with boys. Previous sentences of three years and six years had also been passed upon the same man, who is now 46, so that at the end of his full term, at the age of 60, he will have served no less than twenty-three years in gaol.

The popular horror aroused by the nature of the offence is such as to overshadow certain other aspects of this unhappy case, which, in an altogether different sense, are disturbing. It is now generally conceded that the majority of cases of homosexuality yield to treatment by psychotherapeutic measures, and the symptoms, often no less distressing to the patient himself than to society in general, if not cured can at least be alleviated to such an extent as to bring them under control. This being so, surely the responsibility lies with the medical authorities of the prisons in which the patient has already served nine years of his manhood to attempt some form of medical treatment while he was under their care. A grave sexual malady cries out for treatment just as loudly as a broken leg or acute appendicitis, and, although a prisoner during the time of his detention surrenders the greater part of his personal liberties, he retains certain civil rights, of which the right to receive adequate and skilled medical attention is among the most important. It is this which distinguishes (or should distinguish) an English prison from a Continental camp.

The prison medical service, however, has its limitations, and among these is an ignorance of sexual abnormalities, which it shares with the great bulk of the medical profession. During the course of my own somewhat prolonged student and post-graduate days I received no clinical instruction whatever on sexual matters outside the narrow confines of midwifery and gynaecology, and even there the somatic approach completely predominated over the psychological. Contraceptives and the hygiene of marriage were never touched upon, while the sexual perversions were given scant notice in a few pages of medical jurisprudence which the student was expected to read, but upon which no lecturer was ever called upon to speak. That is how matters stood some 15 years ago, but if things have moved for the better the change has not yet been reflected in the pages of the *Journal*. I cannot claim to have read every issue as thoroughly as I might, but I do at least glance through the contents; I do not recollect seeing during the last ten years a single article, letter, clinical note, or other reference to homosexuality. This statement of course is subject to editorial correction, but the fact itself is certainly not due to editorial censorship, as the publication of this letter is itself a witness. Even in the freest of free countries the *B.M.J.* stands pre-eminent as a magnificent example of journalistic freedom; its pages are open to all who write with sincerity and obey the ordinary canons of literary decency. The long and bitter discussion on artificial insemination, which followed the publication of Kenneth Walker and Mary Barton's outstanding article last year, is proof that, in the pages of the *B.M.J.*, the ban is lifted from that most taboo of all subjects, male sexuality. The complete absence of any mention of sexual inversion in the volumes of the leading medical journal in the world, not being due to censorship, can be symptomatic only of an apathy and ignorance on the part of the profession which would be classed as abysmal were it not if anything exceeded by the untutored superstitions and perverted ideas of the public at large.

Surely it is now time to remedy this state of affairs. If the general public, together with the responsible authorities in other professions, are to be guided in this matter of homosexuality, it is without doubt to the medical profession to which they must look for the lead. It may reasonably be argued that topics such as this do not fittingly belong to the student curriculum; but they are nevertheless of first-rank importance to the general practitioner, to whom these unhappy patients often turn as the one friend who they know can be trusted. When one recalls the estimate given by Havelock Ellis that in 2% of the population, both male and female, there is some degree of sexual inversion, the magnitude and importance of the subject cannot be overlooked.

Not only is there the enormity of retributive sentences being passed upon patients who should be given all the benefits that psychology has to offer; there is also to be remembered the loss of potential mothers and fathers among those whose instincts have been diverted up a biological blind alley. But far greater even than these weighty considerations is the debt owed by humanity at large to these unfortunate inverts, in this country alone numbering several hundred thousand, who owing to causes which are quite beyond their own control, being abnormal in their endocrinic make-up or unhappy in the environment of their early childhood, are deprived alike by Nature and by society of the reasonable satisfaction of instincts which are the foundation of human happiness.—I am, etc.,

Hayle, Cornwall. D. STANLEY-JONES.

Physical Therapy in Mental Disorder

SIR,—It seems to me wrong to make an absolute correlation between physical methods of treatment and such methods as electro-convulsive therapy and leucotomy. The objection to these methods is not that they are physical but that they are destructive. There is no doubt that there are many physical methods of treatment which are valuable in cases of mental illness. These two methods ought rather to be referred to as

electrical and surgical destruction of the prefrontal areas. These areas of the brain are generally acknowledged to have a close relation with the development of the higher faculties of the personality. It seems that many cases of mental illness arise just through the development of finer qualities—a higher sensitivity, a more delicate conscience, for instance. The conflict between these and the more animal tendencies produces the illness. This can then be resolved into one of two directions —either a higher synthesis is achieved and the personality can continue to live at a higher and more creative level, or the lower qualities gain the upper hand. Destruction of the physical basis of the higher faculties precludes the former solution. The personality is then thrown back to the former level, or usually somewhat lower, and this is then regarded as a cure by the inaccurate observer.

Does Dr. Jan Frank (Jan. 19, p. 104) really believe that the average mental hospital doctor is really capable of discerning genius? (And why should genius be referred to as a "creative crank"? Surely the crank is the man whose only idea of curing mental illness is by pressing the button of the E.C.T. machine.) Far too often the mental hospital doctor is below the level of many of his patients in general culture and intelligence. Even if this were not the case, history has shown too often that humanity as a whole has been incapable of recognizing genius until too late. Many people of genius have had short mental illnesses, which have sometimes been a prelude to a creative period, which could not have been anticipated before or during the illness.

Why does Dr. Frank refer to the opponents of fore-brain destruction as "'pure-mind' mystics"? It is just because we acknowledge the relation between the physical brain and the mind and personality that we object to the destruction of the brain. If we truly suffered from an "obsolete metaphysical assumption of body-mind dichotomy" then we could not possibly object to the destruction of the brain, because this would be quite incapable of affecting the mind. We are just as anxious as he is for the progress of clinical psychiatry, but we believe this progress is being obstructed by the present craze for destruction.

Is psychological treatment ever really conscientiously carried out in the present-day mental hospital? I worked in a hospital for 370 patients, including an unusually high proportion of early treatable cases. The medical staff consisted of two—the superintendent and myself. The former was much too busy with administration to do much therapy. With the best will in the world I could not tackle the large number of quite suitable cases adequately, even if I had worked through the 24 hours. No wonder the electric button is popular.

Our objections to these methods are based not only on theoretical grounds but on a study of the actual results. The late R. D. Gillespie, in a statistical review of electrical treatment of schizophrenia from material collected throughout the world, showed that the percentage of spontaneous recoveries actually exceeded slightly the percentage of recoveries in cases treated by E.C.T. From personal observation I was convinced that the chances of many young people making a really sound recovery in both this and the affective type of psychosis were prejudiced by electrical treatment. We frequently have the wrong attitude to mental illness: the real illness often precedes the appearance of frank abnormalities, and these should be regarded as Nature's reaction to an abnormal way of life. If the illness is simply cut short by violent methods the patient all too often has to be admitted again after a short time, whereas if the whole process is allowed to work itself out a permanent cure may be established. Mental illnesses take a much longer course in time than most physical illnesses, and patience is needed in both their treatment and the estimation of results.

Often the results of these methods are dishonestly summarized by their advocates in journals of general medicine. If one turns to the original papers one finds such results of leucotomy as a rapid dementia, epilepsy, permanent incontinence of urine or even faeces, a previously quiet patient develops disgusting habits, etc. But much more serious is the destruction of the finer imponderable qualities of the personalities, which sometimes makes one feel when faced by these victims that the true individuality, the really human personality, is no longer there.

A serious matter which has come to my notice recently is the way in which friends and relatives of the patient who object to these methods are treated. Often they are bullied into signing a statement that they agree to any method of treatment which the hospital staff think fit. If they object to electrical treatment they are sometimes threatened with the immediate discharge of the patient—a serious matter when the relatives are too poor to afford private treatment. It ought to be possible for relatives of a patient to obtain independent consultant advice on a patient in a public mental hospital, but this is indignantly refused by the hospital staff. Lastly, it is not true that no responsible psychiatrist recommends leucotomy before all other methods have been tried. Leucotomy as a primary measure has been openly advocated by Fleming in the *Journal of Mental Science*. The time seems to me ripe for securing the protection of patients and relatives against leucotomy by adequate medico-legal sanctions, and I shall be interested to hear from psychiatrists who would like to organize against this terrible method of treatment.—I am, etc.,

London, N.W.3. T. H. B. GLADSTONE.

Tuberculosis in Childhood

SIR,—After Prof. Moncrieff's lecture comes Dr. W. F. Gaisford's article on primary tuberculosis in childhood (Jan. 19, p. 84), and one may expect shortly other signs of the activities of the paediatricians. On reading their association's two memoranda on tuberculosis and rickets a malicious observer might remark that the association comes out in the open only when the enemy is already in retreat. For there seems little doubt that childhood tuberculosis as a cause of death is declining fast, while rickets has long ceased to be a preoccupation of the busy doctor. Dr. Gaisford refers to the meeting of the paediatricians with the Tuberculosis Association, and, indeed, it was a valuable meeting, for it showed that the two groups had differing ideas of the disease; the phthisiologists were thinking of their scores of dead and dying adults, of their hundreds of men and women struggling through months and years to regain some degree of health and confidence. The importance attached by the paediatricians to childhood tuberculosis seemed almost dilettante.

First infection, an event almost always innocuous, "tuberculosis" whose only sign is the presence of a positive Mantoux test are hardly the causes to which ought to be devoted a great deal of time, energy, and money just now. Further, the mortality and morbidity, such as they are, from childhood tuberculosis will not yield to direct assault, but will rapidly respond to the hygienic education of the infectious adult and to the amelioration of the social circumstances of the family. In my own district of 140,000 people with a tuberculosis mortality of 61 per 100,000 there is on the average one death each year under the age of 5. It doesn't seem a great problem. One sees hundreds of children with positive tests and dozens with quite large primaries, all of them apparently well. The occasional case which is clinically ill requires rest like any other ill child. One child a year dies despite, perhaps, rest and the best of home circumstances, and such children appear to be like guinea-pigs, in whom the disease follows an inevitable course. Perhaps B.C.G. would protect them.—I am, etc.,

Chest Clinic, Edgware. STEPHEN HALL.

SIR,—Dr. W. F. Gaisford's generally helpful paper reveals that the supposed divergence of views of the Tuberculosis Association and the British Paediatric Association is due to reliance, on the one part, on well-founded statistics and, on the other part, on "clinical experience." Dr. Gaisford's contention that those who work in children's hospitals see "scores of infants dying of tuberculous meningitis" cannot, however, be allowed to pass without some comment.

The average number of deaths from all cases of tuberculous meningitis for the whole of England and Wales (and this must surely include more than "infants") has for a number of years been fewer than 2,000 per annum. How is it, then, that individual paediatricians see "scores of infants dying from tuberculous meningitis"? Are death certificates being widely falsified throughout the country in the same way that Dr. Gaisford admits omission (intentional or otherwise) of notifications of Tb.? I find it difficult to believe. There is, I think, another explanation. Children's hospitals and the children's wards of general hospitals might reasonably be expected to admit a very

large proportion of all cases of meningitis, including tuberculous. This will give the impression to those treating them that this is a very common disease; hence the error that "clinical experience" unbacked by statistical checking gives. There are not, of course, "scores of infants" dying in every hospital in the land from tuberculous meningitis, but "clinical experience" makes it appear that it is so.

I sympathize with the views of Dr. Gaisford and other paediatricians. I myself have worked in a children's hospital and know the heartbreak of seeing children die and know that one is unable to help them. But this human feeling should never cloud one's wider judgment. The Registrar-General's figures for mortality are hard facts, and are, I contend, more reliable than "clinical experience." It is neither necessary nor helpful "to make mountains out of molehills."—I am, etc.,

R. M. ORPWOOD,
Tuberculosis Officer.

Stepney, E.1.

Control of Malaria in the Tropics

SIR,—In your leading article (Dec. 8, 1945, p. 808) on the control of malaria in the Tropics the eradication of *Anopheles gambiae* in Brazil is discussed, and Dr. George Macdonald is reported as foreseeing "similar operations in Mauritius, the Seychelles, and other places where conditions are favourable." This inclusion of the Seychelles surprises me. During a visit to Mahé in October, 1943, I was given to understand that there were no anopheline mosquitoes on the islands and that malaria did not exist. Great care was being taken to fumigate all ships and aircraft arriving at the port, and unless these arrangements have broken down I should imagine that a campaign to eliminate *A. gambiae* from the Seychelles would be rather unnecessary.—I am, etc.,

R. H. TOWNSHEND,
Surg. Lieut., R.N.V.R.

Alexandria.

Amoebiasis

SIR,—In Mr. J. K. Willson-Pepper's "Impressions of Surgery in West Africa" (Dec. 8, 1945, p. 812) the following passage occurs: ". . . In my experience of this disease [amoebic dysentery], if ulceration does not come within the range of the proctoscope it is very unlikely to come within that of the sigmoidoscope, which probably means that it is not there at all. Provided certain elementary rules are observed, the chances of an immediate and accurate diagnosis with this simple and safe instrument are extremely high. The rules are these: (1) Don't give any form of treatment to the patient for 48 hours before examination, especially any rectal lavage. (2) Don't use a proctoscope which has been dipped in any antiseptic. . . ."

The above appears to contain certain dangerous and misleading fallacies in the approach to amoebiasis. First, that in amoebic dysentery our interest in the visible mucosa begins and ends with the discovery of ulcers. Nothing could be further from the truth, for this is to ignore the equally significant and characteristic lesions of pin-point craters and "pigskin" appearance. Secondly, as a consequence, the use of the sigmoidoscope can be supplanted by that of the proctoscope. In a very large percentage of cases, in my experience, the only visible lesions are at 5, 6, and 6½ in. (12.5, 15.0, and 16.25 cm.) from the anal margin. Such lesions, it is true, seldom take the form of classical ulcers, but I have on several occasions seen isolated yellow-headed ulcers at 6 in. (15 cm.), the remainder of the visible mucosa appearing quite normal. The suggestion is reinforced by referring to the proctoscope as "simple and safe," the sigmoidoscope, by implication, being less simple and safe. Surely, with reasonable gentleness and care, there could be no safer instrument? Thirdly (though this is perhaps hardly a fair deduction), "Rule 2" might be taken to imply that the practice of sterilizing the proctoscope by an antiseptic is not unknown. I am sure that Mr. Willson-Pepper would be the first to agree that sterilization by thorough boiling of any rectal instrument is the only possible method when dealing with a series of potential cyst-passers.

Incidentally his practice of giving no preparation for proctoscopy is infinitely preferable to the elaborate and exhausting wash-outs, etc., which are occasionally inflicted on the patient, and in my experience will give about 80% efficient preparation. But one or two *weak* soap or bicarbonate enemas given three hours before the examination usually yield 100% adequate results, obviating the annoying necessity of having to send away a percentage of patients until another day.

I feel impelled to call attention to these points, and to the imperative need for the maximum competence and knowledge to be applied to the diagnosis of amoebiasis in the United Kingdom in view of the great numbers of low-grade infections which without doubt will declare themselves amongst those members of the population who have served in Eastern theatres of war. Responsibility for detecting such cases will in most instances devolve upon the general practitioner.—I am, etc.,

C. F. J. CROPPER,
Major, I.A.M.C.

Northern Command, India.

The E.S.R. Technique

SIR,—I feel that an apology is needed for once more taking the field on this subject, but Dr. H. S. Gaskell's letter (Dec. 29, 1945, p. 940) contains an error of such magnitude that it should not be allowed to pass. Thus he says "it is obvious that the higher the column of blood the greater will be the amount of clear serum to be read off." (It is not serum, of course, but let that pass.) "If you take a column 100 yards high the normal fall will be about 4 yards, whereas if 100 mm. be taken it will be about 4 mm." I can assure Dr. Gaskell that this observation, so far from being obvious, is just positively not true, as a single practical observation will suffice to show. If Dr. Gaskell were a non-swimmer he would not drown five thousand times faster in the deepest part of the Pacific than in the deep end of the local swimming-bath, though the principle is similar. In actual point of fact a normal case will give the same result almost whatever column length is used. It is only in the faster rates that a short column produces an effect on the result through the earlier onset of "packing." Theoretically a column of infinite length is ideal, but in actual practice the Westergren length of 200 mm. is the best.

It seems to me that Dr. Gaskell's instructions make rather unnecessarily heavy weather of the task of filling the pipettes. These are only more difficult to fill than an ordinary chemical pipette because they are not "throttled" at the tip. It is, however, a very simple matter to "throttle" them against the bottom of the specimen-tube when filling them and when running the level down to the mark. No chemist would think of using a wetted finger for this purpose, and surely no reputable firm sells sedimentation tubes with jagged ends.—I am, etc.,

J. W. SHACKLE.

Hayward's Heath.

Spinal Analgesia in Obstetrics

SIR,—As the author of the first two papers on the use of heavy (hyperbaric) nupercaine in obstetrics (*J. Obstet. Gynaec. Brit. Emp.*, 1942, **49**, 247; 1944, **51**, 324), I have read Dr. Louis Resnick's article (Nov. 24, 1945, p. 722) and the correspondence which has followed with more than usual interest. I am pleased to see that Resnick was able to confirm the conclusions I came to during my experience of 200 Caesarean sections under heavy nupercaine spinal analgesia.

There have been many criticisms of the use of spinal analgesia in obstetrics, and in my first paper I quoted freely the opinions of many against its use (H. R. Spencer, DeLee, Brindeau, Brouha, Voron, Kronig, Marshall, *et al.*), and in favour (Ashworth, Luker, Lloyd-Williams, Sebrechts, Murad and Parhad, *et al.*). Voron thought there was a special bulbar sensitivity of women in labour to the action of cocaine compounds. But, as I pointed out in both my papers, nupercaine is not a cocaine compound, and is therefore not open to this objection. This fact should be borne in mind in assessing the value of nupercaine as a spinal analgesic in pregnancy. DeLee quoted Kronig as saying that "spinal analgesia is dangerous in pregnancy and labour," but Prof. R. R. Macintosh and Dr. W. W. Mushin said that it appeared to them to be a bogy to suggest that pregnancy makes a woman peculiarly susceptible to the effects of spinal analgesia (*Lancet*, Nov. 18, 1944).

Commenting on my first paper, Greenhill (*Year Book of Obstetrics and Gynecology*, 1943, said he thought I had been lucky. Bourne and Williams (*Recent Advances in Obstetrics and Gynaecology*, 1945), referring to the same paper, agreed with Greenhill as to my luck, but added, "We are driven to conclude that Thomas has obtained his excellent results by the good work of his surgical and his anaesthetic team, but that

his method is not one which it is wise to teach." Good teamwork makes for efficiency in every field, but we have never employed a specialist anaesthetist. All the spinal analgesics have been given by myself or my assistants, and the method is so simple that no fewer than sixteen successive assistants have learned it in the past eight years. Why, then, should it be unwise to teach it?

In the *Year Book of Obstetrics and Gynecology*, 1944, commenting on my second paper and on a letter from me to the *Lancet* (Oct. 28, 1944) in which I had brought my total of Caesarean sections under heavy nupercaine spinal analgesia to 241 without a fatality from the analgesic, Greenhill said:

> "This is a most creditable record for spinal analgesia. . . . Thomas insists that it is just as important to distinguish among the different drugs used for spinal anesthesia as it is among those used for inhalation anesthesia. This seems logical to me because, as Thomas says, one would hardly condemn all forms of general anesthesia because there have been deaths under chloroform. . . . The point made by Thomas about the type of anaesthetic used is important, and if Thomas is right, surely all the enthusiasts of spinal anesthesia who have had any fatalities from drugs other than heavy nupercaine owe it to their patients to use this anesthetic and no other."

For any opinion to carry weight it should be supported by figures, preferably those from personal experience. My own experience of heavy nupercaine in obstetrics and gynaecology extends from 1938 and covers the following cases: forceps deliveries, 735; Caesarean sections, 282; gynaecological, 984; total, 2,001. Among the Caesarean sections were 42 cases of placenta praevia. Included among the gynaecological cases were 35 operations of hysterotomy and sterilization at about the third month of pregnancy, at least 15 ruptured ectopic gestations, a number of therapeutic abortions, and several cases of removal of ovarian cysts complicating pregnancy, including one which contained 22 pints (12.5 l.) of fluid. There has not been a fatality, either due to the spinal analgesic or under the analgesic from any other cause whatever.

I understand that Resnick's experience now extends to over 660 obstetric and 840 gynaecological cases without a fatality, which he will doubtless confirm shortly. It would appear, therefore, that between us we can cite over 3,500 operations under heavy nupercaine spinal analgesia without an anaesthetic fatality. May I end by quoting from a personal letter from Prof. Miles H. Phillips, who, commenting on my first article, said: "I read the paper with great interest and a complete dismissal of the bias against spinal anaesthesia which dated from earlier experiences with it."—I am, etc.,

Obstetric Service, Croydon. RUFUS C. THOMAS.

Predisposing Factors in Carcinoma of the Cervix Uteri

SIR,—When I was a student at the Middlesex Hospital I believe I remember being taught by Mr. Carnac Rivett that carcinoma of the cervix uteri never occurred in the nulliparous woman. Other authorities at least say "hardly ever." It appears, therefore, that (1) pregnancy with its great hormonal changes or (2) the subsequent labour with its mechanical trauma is the predisposing factor, or, of course, a combination of the two.

It would be of great interest to know the exact percentage of cases of carcinoma of the cervix in women who have only had children by Caesarean section. There are now probably sufficient records for this to be ascertained. If the percentage were the same as for normal multiparae it would point to pregnancy as the predisposing cause, factor (2) being eliminated. It might then be worth trying to modify or nullify the carcinoma with suitable hormone preparations. After all, the oestrogens modify prostatic carcinoma. If the percentage were less than for ordinary multiparae, it would point to the mechanical trauma of labour as the predisposing cause, perhaps some tear leading to chronic inflammation, then followed later by malignant changes. In this case more attention to the cervix after labour would be due than is given at present.—I am, etc.,

London, N.3. A. REDMAYNE NETTLETON.

Institutional Midwifery and the Family Doctor

SIR,—It may interest Dr. R. Guest Gornall (Jan. 19, p. 108) and others to know that institutional practice of midwifery by general practitioners has been conducted for many years at the Woking Maternity Home. Last year this hospital was used by over 30 doctors, and is open to all practitioners in the district. It might be supposed that so many different men, working with different techniques, would introduce confusion, but in practice this is not the case, and the work is done with easy harmony between the medical men and the nursing staff. Over 1,000 babies are delivered yearly, and few hospitals can show such good results.—I am, etc.,

Woking. L. G. HIGGINS.

Stethoscope versus X Rays

SIR,—The argument of stethoscope *versus* *x* rays is, indeed, a very old one. Paradoxically it goes much further back than the discovery of *x* rays. We heard the same argument as sailing-ship *v.* steamship, horse-drawn carriage *v.* motor-car, silent film *v.* sound film, and it might have existed quite recently as sound detector *v.* radar. In each of these examples the point was not what the sailing-ship, the horse-drawn carriage, the silent film, or the sound detector could do, but what they *could not do*. The same applies to the stethoscope. We know what it can do when used with skill, but we also know what it fails to do, in spite of the greatest skill.

Argument will never settle the case of stethoscope *v.* *x* rays, but a practical test would. Some years ago (I believe in 1938), sponsored by the American Trudeau Society, a committee was formed to decide this issue. They selected twelve first-class chest physicians, who examined a large number of chest cases, carefully recording the physical signs. When their records were compared with the *x*-ray films the result was a complete rout of the "stethoscopians." Would the enthusiastic defenders of the stethoscope care to repeat this experiment in this country? It would certainly give them the chance of eating the pudding instead of talking of its magnificent flavour.—I am, etc.,

Woodford Green, Essex. F. KELLERMANN.

SIR,—In view of the recent correspondence, conducted not without some asperity, between the radiologists and the clinicians as to the diagnostic value and merits of their respective methods, may I bring to notice the following case, which would seem to add weight to the paramount importance of clinical observation and examination as against dependence upon *x*-ray findings for the purpose of establishing early diagnosis of tuberculosis of the lungs.

Miss A., aged 19, developed an apparently simple lobar pneumonia three months ago. In accordance with my experience of a series of pneumonias during the past six months, resolution of the consolidation was protracted. The acute stage was dealt with on orthodox lines together with the use of sulphadiazine. Convalescence was prolonged and unsatisfactory in that, in spite of the apparent "well-being" of the patient, the temperature refused to settle down completely. There were recurrent bouts of fever lasting a day or two, which gradually settled down to a rhythmic evening rise of temperature varying from 99° to 100° or 100.4° F. or so. Stethoscopic examination gave the usual signs of a slowly resolving lobar pneumonia, to which later became added a few transitory faint scattered rhonchi over the whole chest area. No specimen of sputum had been available throughout the illness, since there was very little cough and no attempt at expectoration. My suspicions in regard to tubercle were based upon (1) the temperature chart; (2) the facies of the patient—the somewhat transparent pallor with that typical recurrent hectic flush; (3) the faint but suspicious moist sounds elsewhere in the chest; (4) the temperament—a cheerful, sweet-tempered nature and contented resignation to the prolonged confinement to bed. I stress this last clinical observation as of some importance, since it is typical of the "phthisical" patient in all stages of the disease.

Owing to the unsatisfactory progress I had the chest *x*-rayed with special reference to any signs of tubercle. The films were reported upon as showing a simple resolving lobar pneumonia with no signs of tuberculous disease. The white cell count taken at the same time showed a count of 8,000. About a fortnight later, since the patient's condition remained the same, except for a transitory pleurodynia on the other side, apparently diaphragmatic, I had a further *x*-ray examination carried out, again stressing the question of tubercle. The report showed a progressing resolution of the pneumonic patch but again showed "no evidence of tubercle." The white cell count on this occasion was 12,000. At this juncture, and at long last, the patient produced a very small specimen of sputum, the report upon which stated the presence of a considerable number of acid-fast bacilli. A second specimen of sputum produced a week later con-

tained a large number of acid-fast organisms indistinguishable from tubercle bacilli. The diagnosis was therefore established.

The point of interest is that here was a case of early tuberculosis of the lungs which *x* rays had failed to demonstrate. Since the main argument in favour of mass radiography is its importance as a means of the earliest possible detection of tubercle, this particular case would seem to throw very considerable doubt upon its value or infallibility and should produce a vote of "no confidence."—I am, etc.,

Oxford. J. FRANKLAND WEST.

Diagnostic Acumen of the G.P.

SIR,—Dr. Vincent Norman (Jan. 12, p. 67) fulminates against certain comments made by specialists concerning the work of the general practitioner. Unfortunately many of the examples he quotes recoil against him. He states: "The general practitioner, who at one time did 90% of the midwifery in this country and did it well, has been told . . . that he is a careless and poorly equipped accoucheur, a positive danger to any lying-in woman, and should on no account attend a midwifery case." If Dr. Norman Roberts does not believe this he need only attend a large maternity unit and note the emergencies admitted.

Of the three maternal deaths in this hospital last year in 1,500 deliveries one patient was admitted following a cerebral haemorrhage, her blood pressure was 190, and she had oedema. She had been seen antenatally by her own doctor, a very competent general practitioner, who had examined her with care, had noted the oedema of her legs, had failed to find albumin in her urine on repeated examinations, but had not considered that a rising blood pressure, which he had taken, was of any significance in the absence of albuminuria.

Two weeks ago a patient was admitted for repair of damage during forceps delivery at home. She was found to have the whole of the posterior cervix torn off, both lateral walls of the vagina were torn from top to bottom, and the whole of the pouch of Douglas was open. She had been delivered through an undilated cervix.

A personal friend, a one-time maternity sister, wrote recently that she was to have a baby in February and was "blown up with oedema" and that her doctor would not take her blood pressure. To-day we have had a 'phone call to say that yesterday she was seized with eclamptic fits, was rushed into hospital, and had a Caesarean section. Surely even the most stubborn must realize by now that obstetrics is a specialist art and should be practised only by those with special knowledge and experience. The individual need not be a pure specialist, as many general practitioners practise a specialty with skill as great as that of the pure specialist.—I am, etc.,

Halifax General Hospital. H. I. DEITCH.

The Disabled Persons Register

SIR,—A new "racket" has arisen in connexion with the Disabled Persons Register which I think deserves wide publicity among the profession. It would appear that certain unscrupulous employers are trying to persuade any of their employees who have a disability of any kind to enrol on the above register, thereby attempting to avoid or minimize their responsibility for taking on to their pay-roll the legal 2% of really disabled persons. One is confronted in the surgery by a patient who has hitherto been regularly employed and is presumably a valuable employee as no question has up till now been raised over occasional or even frequent absences from work. A form is presented which the manager has told him to get filled up and signed by the doctor. So far I have refused to sign this form, but I would be glad to have the views of others.

There is a certain class of case in which there is no question of the gross and permanent disability, either surgical or medical; but there is a vast mass of cases which are borderline. Is one to certify the man who has lost a finger or the man who suffers from bronchitis every winter or the man who has frequent attacks of migraine? I could go on indefinitely listing doubtful cases, and I do not see how any hard-and-fast rules can be laid down; it seems obvious that each case must be treated on its merits.

The refusal of such certificates by a practitioner may cause much unpleasantness if employers resort to victimization of the patient, and I maintain that the decision should not be imposed on the G.P., who has enough unpleasantness to put up with these days if he is conscientious in his certification for milk and corsets and fuel, etc.—I am, etc.,

Fitzwilliam, Pontefract. J. S. LAURIE.

Glandular Fever and Infectious Mononucleosis

SIR,—I have read with interest Sir Henry Tidy and Dr. E. B. Morley's reply (Dec. 22, 1945, p. 896) to my letter (Nov. 24, p. 743). It is with temerity that I dare to cross swords with such acknowledged authority, nevertheless my purpose in stressing the difference between the "glandular fever" case and the "infectious mononucleosis" case was to bring out the point that the latter condition possesses certain definite characteristics, which Dr. Gerald Slot and Major F. D. Hart (Oct. 13, p. 495) had not considered. That "infectious mononucleosis" is a term in general use in the North American continent, whereas "glandular fever" is mostly used on this side of the Atlantic Ocean, is common knowledge. We have had an authoritative explanation given us as to how this arose. What is not always understood is that "infectious mononucleosis" is used in North America to describe a condition generally found among young adults and exhibiting certain clinical characteristics; whereas "glandular fever" here is used to describe that condition more commonly found in children, and varying in its clinical appearance from that condition found in the States. That it is the accepted practice in this country to use "glandular fever" and "infectious mononucleosis" synonymously when in fact different clinical appearances are being described only adds confusion and unnecessary complication.

Dr. Slot and Major Hart's case occurred in a young adult of the "infectious mononucleosis" as opposed to the "glandular fever" syndrome—this they did not make clear, neither was its significance realized. It was for this reason that I criticized them. It has long been apparent that the group of clinical conditions gathered under the umbrella of "glandular fever" comprises a larger group than that differentiated by "infectious mononucleosis," if these terms are used correctly. It is also apparent that these groups need further differentiation if clarity is to be attained.

Sir Henry Tidy and Dr. Morley state in their letter: "On the Continent 'glandular fever' is often applied to the disease in children, and 'infectious mononucleosis' to the disease in adolescents and adults, but the identity of the two forms is accepted." In answer to their criticism I have searched the literature for evidence in support of my argument. I can find no more telling support than that from the pen of Sir Henry Tidy himself, in an article on infectious mononucleosis in a recent number of the *Practitioner* (1945, pp. 155, 361, *et seq.*).

"Glandular Fever in Children.—This is the form in which glandular fever was first recognized. It is especially common in England, in resident preparatory schools, between the ages of 8 and 14.

"Glandular Fever in Adolescents: Infectious Mononucleosis.—This is the form in which glandular fever is commonly recognized in America, usually among college students. American accounts of the disease are essentially based on this group."

Later, discussing the heterophil agglutination test, its value and application, Sir Henry states:

"The question arises whether or not two types of glandular fever exist giving respectively positive and negative agglutinations. In view of the factors mentioned above [i.e., in the article] and technical difficulties connected with the test it cannot be expected that every case or series of cases should give positive reactions. *There is nothing inherently improbable in the existence of two viruses, and some of the reports are difficult to explain otherwise*" [my italics].

Perhaps Sir Henry omitted to inform Dr. Morley of this opinion before they wrote the final sentence of their letter: "Anyone who reads the literature under the impression that glandular fever and infectious mononucleosis are different conditions will arrive at an unfortunate state of confusion."—I am, etc.,

R.N. Hospital, Haslar. T. S. EIMERL.

Jittery Legs

SIR,—It was with some surprise that I learned from your annotation on jittery legs (Jan. 19, p. 95) that I had for several years been suffering from a condition which had been solemnly named, not only in Latin but in French. I have always called it "creepy legs," and your second paragraph is a masterly description of the symptoms, with the milder of which I am

familiar. I think there may be a considerable psychological element present, as in my case an attack seldom begins before I have thought, "I wonder if I shall have it to-night?"

During an attack the "creeps" can be stopped by concentrating one's mind on stopping them, but as soon as the mind wanders from the subject a "creep" results. A common predisposing cause is the presence of local irritation such as the tickle of Army blankets or a gnat-bite. I have not been able to satisfy myself that any muscular contraction occurs, but after inhibition of the sensation for some time by what one must call "mental concentration" the muscles of the affected leg feel very tired. To the various contrivances suggested for stopping an attack I can add clenching the toes tightly and very vigorous—even painful—massage of the affected part, either of which may or may not have the desired effect. Although this condition has from time to time cost me many hours' sleep I have never taken it sufficiently seriously to try the effect of drugs, but now that I know it has been dignified as a syndrome I shall have to see what can be done along these lines. Since, however, the attacks are intermittent and unpredictable the assessment of the results will not be easy.—I am, etc.,

"—273."

SIR,—From my own experience of the many minor discomforts to which the flesh is heir, jittery legs is one of the most annoying. I suffered considerably in this way during my first pregnancy; the symptoms cleared up, only to recur with increasing severity during the next pregnancy, and then persisted for the following six or seven years. Medical opinions, inside and outside the family, were vague, and not helpful as regards treatment. However, I did gain complete relief from a course of iron and vitamins, which was prescribed for a definite secondary anaemia (confirmed by blood count). Once the count reached normal the "jitters" stopped.

I am writing this in case such a line of treatment would help other cases. The diagnosis of the anaemia was arrived at accidentally. I was in good general health. Having "jittery legs" sounds a stupid form of complaint, but it can be a real burden physically, mentally, and socially, and like chilblains is one of the things for which the medical profession offers sympathy but little relief.—I am, etc.,

"A DOCTOR'S WIFE."

Bitterness

SIR,—Mr. H. B. Stallard wrote a letter to the *Journal* under the above heading on Sept. 22, and I consider that the time is now ripe to re-emphasize what he then said. His letter has evoked sympathetic replies, but the matter is of such obvious importance to the reorganization of post-war medicine in Britain that no apology is necessary in bringing it up again. By not practising in Britain and therefore having no axe to grind, and further by not being myself an Englishman, I can state the facts without prejudice and without the reserve and understatement which are recognized English characteristics.

If the established doctor who has not himself served in the Forces fails really to understand at least something of what the war has meant to his colleagues now demobilized after years of service, it will be impossible for bitterness to be avoided. And recent correspondence in medical journals strongly suggests that this is the case. There are facts that he can readily understand. He can understand the difference in income between £1,000 and, say, £3,000 a year. He can understand the financial difference in running two "homes" (life in the Army is not gratis) and also possibly retaining consulting rooms. He can perhaps understand the sordid conditions of troopship and camp. He can appreciate the opportunity the established non-serving doctor had to acquire property and to increase investments, and that the young non-serving doctor had to acquire higher qualifications. He can understand the difficulties and anxieties of a colleague returning to a complex job similar to his own but a job with which he has grown completely out of touch but from which he must earn his living in highly competitive conditions and without the financial backing that he would have accumulated had he remained in private practice. These facts the civilian doctor can understand, and it is well that he should ever bear them in mind.

But there are facts that it is not possible for him fully to understand, for the understanding of them demands personal experience. He cannot understand the endless frustrations, futilities, and "fighting-one's-own-side" that have so embittered the Army doctor. It is likewise impossible for him to understand the "being-treated-like-a-schoolboy," the lack of individual freedom, and the squashing of initiative which, combined with the above, have so influenced him against any form of State control in medicine. He may partially understand these, but he certainly cannot understand the bitterness of separation from wife and home, from friends, from his busy useful existence and established way of life—leaving all this and returning to the community discipline of school days—and this separation being often absolute for years. These can be understood only by personal experience, but it is essential that the civilian doctor should keenly recollect and make allowances for them when planning with his demobilized colleague. Without a sincere appreciation of these facts and without full consideration being given to them, bitterness either publicly stated or inwardly nurtured, is bound to ensue.

The European medical world with its shattered universities and scattered students will look to England for guidance and help in medical advance. Such England cannot give if her planning is frustrated by the bitterness of the war years. Let the civilian doctor, therefore, be certain to show his demobilized colleague, in both precept and practice, that he has a real understanding of the inequality of sacrifice and thus prevent the latter from allowing the barrier of bitterness to arise between them. There is no other way.—I am, etc.,

L. B. SOMERVILLE-LARGE,
Late Lieut.-Col., R.A.M.C.

Palmerstown, Co. Dublin.

An Association of Medical Societies of the United Nations?

SIR,—May I suggest that the medical societies of Great Britain take the opportunity of the United Nations Delegations Meeting in London to propose and to start the foundation of an "Association of Medical Societies of the United Nations," to which the individual medical societies of the various countries should be affiliated? This association could serve as a clearing house for the exchange of medical experiences in public health, medical practice, and medical research by the exchange of literature, by communication of statistical facts, and by the organization of international meetings. It may also have to take up some of the duties of the health department from the deceased League of Nations at Geneva. Another useful purpose would be facilities for the exchange of medical students, teachers, and research workers between the different countries. Further to that it will ease a decision to be taken at the appropriate time about the admission of medical societies of former enemy countries.—I am, etc.,

E. M. FRAENKEL.

London, W.1.

Czechoslovakia's Need for Textbooks

SIR,—On Nov. 17, 1939, the Charles University in Prague was closed by the German occupying authorities. This was but one of the measures adopted by them all over Czechoslovakia for the purpose of destroying the intellectual leadership of the Czech people and eliminating the university centres of resistance. The execution of professors and student leaders, the imprisonment and suffering of thousands of others, make a story already well known. The difficulties of this period of reconstruction are, however, less well publicized and thus less widely understood.

The universities opened again at the liberation. Ninety professors and ten lecturers from the Universities of Prague and Brno did not return from camps and prisons. There were fewer teachers and more students than ever. Over 60,000 students, many of whom had passed over six years in exile as soldiers fighting with the British and Russian Armies or in forced labour in Germany and Czechoslovakia, were waiting to begin or continue their university courses. In these circumstances there were many serious problems for all: ill-health, fatigue, and shortage of food and fuel, which are general problems, and others which are peculiar to students. The Czechoslovak youth tackled their own difficulties with resource, courage, and originality. There was no coal to heat their university build-

ings, lecture rooms, and hostels. Therefore teams from 1,500 students worked in shifts in the mines. There was insufficient accommodation in the lecture halls for all who wished to attend. Priorities were given by the Students' Union to resistance members and to older students. Lectures were broadcast into adjoining rooms. No new textbooks had been printed since 1939, and the Nazis had robbed the libraries of the university.

Recently, with another representative of the British Medical Students' Association, M. H. Lessof, former International Secretary, I attended the first post-war World Students' Congress in Prague. We saw and learned these facts for ourselves. We have in our possession copies of the textbooks, printed by themselves, which the students now have to use. They consist of duplicated typewritten sheets in a loose folder, reproducing lecture notes and articles from professors and lecturers. In textbooks of biology and medicine, identical with those described, only the simplest diagrams can be reproduced. All of these facts, together with those circumstances of war and occupation which have for six years cut off Occupied Europe from all recent developments in science and medicine, constitute to-day a serious check and embarrassment to study.

During the war many Czech students have been in England, and many more have learned English in order to listen to B.B.C. broadcasts. There is, therefore, reason to believe that textbooks sent from this country will have a greater value than that simply of a gesture of friendship. The British Medical Students' Association is, therefore, organizing a collection of medical and scientific textbooks to be sent to a students' reading-room in Prague. We wish to appeal most strongly to all who have in their possession used textbooks on medical subjects, on the natural sciences, or of general scientific interest to send them to us. We should be equally glad of copies of medical and scientific journals and of book tokens to procure new copies of standard works. The books most needed are: illustrated textbooks of biology and histology; textbooks of anatomy; anatomical atlases; books incorporating recent advances. Gifts should be addressed to:

The British Medical Students' Association,
B.M.A. House, Tavistock Square,
London, W.C.1.

We hope later to extend our distribution of books to other countries. Therefore we hope that this present appeal will arouse wide interest and support.—I am, etc.,

T. A. MADDEN,
International Secretary, B.M.S.A.

London, W.C.1.

Increasing the Number of Doctors

SIR,—Dr. Maurice Shaw (Jan. 12, p. 64), referring to your comment on Prof. Ryle's letter that the proper solution of the problem of distribution of doctors is an increase in their numbers, maintains that the projected arrangements for admission of more women students to the hospital is likely to decrease rather than increase the number of doctors. I do not wish to express an opinion on this aspect of the problem, but when more doctors are unquestionably needed the risk of any decrease of numbers resulting from the measures taken calls for most careful consideration. Whether the admission of a greater proportion of women to our medical schools will result in an ultimate decrease, or lack of increase, in the number of doctors may be debatable, but at this time it surely is inadvisable to take away permission to continue practice here from the alien doctors, "enemy" and friendly, who have proved themselves during our years of desperate need. I understand the period during which these doctors may continue to practise here has been extended to the end of the year, but this is not sufficient. As I have previously pointed out, these men and women have already undergone much suffering and anxiety—the Nuremberg trials tell us how unbelievably much—and I plead that their anxiety for the future should now be put at rest by giving them permission to continue to practise here with full professional status. If this is not to be granted this decision should be made known to them so that they may plan the remainder of their broken lives. I appeal for friendly as well as "enemy" alien doctors, since owing to the revolutionary changes that have taken place in Europe many of the former do not wish to return to their native lands.—I am, etc.,

HAROLD H. SANGUINETTI.

London, W.8.

A Fundamental Principle

SIR,—In the letters which you have recently published on direction of doctors one important point appears to have been overlooked by all your correspondents. There are, in fact, no such organic entities as State or the "community," these being simply convenient abbreviations for all the people living in a given administrative area, such as Great Britain. From this it follows that if one group of people, such as doctors, are to be ordered about for the benefit of the State or the "community" they are, in reality, merely being exploited in exactly the same way that slaves are exploited, for the benefit of some of their fellows. If it is indeed desirable to secure more doctors in certain unattractive areas the only equitable way in which the people of those areas can secure medical service is to pay for it at more attractive rates than in other parts of the country. If the conditions of medical practice and the remuneration are made sufficiently desirable there will obviously be no difficulty in securing doctors in any area, but if these conditions are not fulfilled and doctors are sent there to practise willy-nilly, then I can see no fundamental moral distinction between this and any other form of slavery or exploitation.—I am, etc.,

CYRIL G. EASTWOOD,
Medical Officer of Health.

Weston-super-Mare.

SIR,—Mr. Eric Coldrey (Jan. 12, p. 63) makes one very important point when he says how unlikely it is that high-ranking planners will ever come within their own plans. Examples from past and present are all against it. When the system of compulsory instruction was instituted in 1870 educationists realized that it was not education as understood hitherto. The proof of that is that the planners of that day who instituted the system did not have their own children submitted to it. So with the system of compulsory health insurance which began in 1912. There is plenty of evidence that behind the façade of Nazism and Communism in Germany and Russia the high-ranking Nazis and Communists had, or have, private fortunes, private houses, and private medical practice—that is, they demand what is normal and natural to any man brought up in the normal European tradition; they deny these things to the serfs alone who are their planning fodder. We are making for a society which will be rotten at the top and rotten at the bottom. It will be rotten at the bottom because there seems no limit to the conditioning of the workers, body and soul, which will be attempted. The Lloyd George plan took 4d. from the worker's weekly wage. The current plan contemplates deducting 4s. to be held against the good behaviour in the future—i.e., submission to what the planning classes consider good for him.

Consider the position of an ambitious young planner in one of the Ministries, say, twenty years hence; what will there be for him to do but to propose some further conditioning of the worker, provided by further deduction from the worker's wages? For by that time the machinery of exaction and compulsion and conditioning will be working smoothly. I think that one may safely predict that the English will not breed in that captivity. (There is evidence that even among races with a long tradition of slavery, planned serfdom of the modern type is immensely destructive of nations.) A society of that kind is rotten at the top, because planners, with immense powers to condition the minds and bodies of the people, tend to respect no law but their own ambitions.

In such a society the medical profession will be very easy meat for the politicians and the high-ranking officials. If medical men surrender the position of acting as principals in a relation in which no third party—and certainly not the State—has a right to interfere, and betray the claim of the patient to be regarded likewise as a principal, they will lose status, and the teaching of all history is that loss of status is followed by loss of economic position.—I am, etc.,

E. H. STRANGE.

Stamford Hill, N.16.

SIR,—It would be as well to know what exactly Prof. Ryle does mean by direction of doctors. He appears now to limit it to young doctors. What about consultants and specialists? In his letter (Jan. 19, p. 105) he says: "If men will not volunteer for certain areas some will have to be posted, just as they are already posted in the Services and Colonies." He appears

to ignore the fact that under normal conditions men can at any time resign from appointments and take up other work, but under the conditions he visualizes that would be possible only if permitted to do so, as all medical practice, both at home and abroad, would be at bureaucratic disposal. His agreement that in certain areas the conditions of practice must be improved in order to attract doctors is, of course, obvious, but in giving his personal opinion that such improvement could best be made in an organized service employing full-time doctors he is evidently not concerned with the suitability for the profession of doctors who would consent to this arbitrary disposal of their lives.

It would also appear that Prof. Ryle is of opinion that such organization as is necessary when the servitude of the nation to a foreign Power is at stake is comparable to arrangements under normal conditions.—I am, etc.,

St. Mawes. B. H. SHAW.

SIR,—"A State Medical Service. How it can be done." After much consideration of this important subject and a perusal of many letters I have come to the following conclusion.

The only way to make such a service a success is to form immediately a non-sectarian order of monks and nuns sworn to celibacy and poverty and devoted exclusively to the practice of medicine. This accomplished, Prof. J. A. Ryle, Vicar-General of the Order, from his headquarters in the slummiest and most smoke-begrimed district of the ugliest and most uncouth city of the country—whether it be North or South or East or West, on the doorstep of Oxford or three hundred miles from it—can direct the devoted practitioners of his certificate-enveloped, red-tape-strangled art and science to wherever fate and standing committees deem them to be required, whether it be for years or for ever, or for but a day.—I am, etc.,

St. Albans. OLIVER SLOAN.

Medico-Legal

MENTAL HEALTH LEGISLATION IN EIRE

A new Mental Treatment Act is being brought into operation early this year in Eire. It is an Act of 284 sections and repeals 19 previous enactments from 1821 to 1942; in fact, all existing Acts are repealed except those relating to criminal lunatics and to persons of unsound mind who are wards of court. It marks a departure from previous legislation and from the existing British code in several respects, notably in the machinery for admission of patients into mental institutions; the judicial authority necessary for such admissions is removed and the procedure is wholly medical.

Admission to Mental Institutions

When it is considered necessary to have a person admitted to a mental hospital, and he cannot afford the whole cost of his medical assistance, application is made by a relative or other person to the medical officer of the dispensary district in which he lives, whereupon the M.O. visits and examines him and, if he thinks proper, recommends his conveyance to the district mental hospital. Here the resident medical superintendent or another medical officer on his behalf is required to examine him, and if he is satisfied that the patient is of unsound mind he makes an order for his reception and detention. Similarly a member of the *Gárda Síochana* (police) who considers it necessary that a person believed to be of unsound mind should for safety reasons be placed under care may take him into custody and apply to the district M.O. for a recommendation, when the same procedure is followed. Again, if an assistance officer learns that such a person is not under proper care or control or is neglected or cruelly treated he may apply in the same way to the M.O.

In the case of a private patient whom it is thought desirable to detain in a private institution, application is made by a relative or some other person to a medical practitioner for an order. The practitioner accepting the application must arrange with another practitioner that each of them shall separately examine the person, and only if each is separately satisfied that it is proper to make an order shall an order be made. This must state that the person concerned is of unsound mind, is an appropriate person to be taken charge of and detained for care and treatment, and is unlikely to recover within six months. The facts on which these conclusions are reached must also be stated, and it must be indicated which facts have been observed personally by the certifying practitioners and which have been communicated to them by others. It is also provided that certain persons must not make either the application or the order; these include members of the governing body of the institution, those who may have an interest in the payments to be made for the care of the person, and practitioners regularly attending at the institution. If a person, having been detained in the institution, escapes he may again be detained if retaken within 28 days.

Temporary and Voluntary Patients

Provision is also made for the admission of temporary patients—chargeable or private—into approved institutions (which may include special departments of voluntary and municipal hospitals) so that advice and treatment may be obtained without a mental hospital being entered. The district medical officer must certify in the case of the chargeable patient, and two medical practitioners in that of the private patient, that he is suffering from mental illness, that he requires for his recovery not more than six months' suitable treatment, and that he is unfit by reason of his mental state for treatment as a voluntary patient, or that he is an addict and requires for his recovery at least six months' preventive and curative treatment. This inclusion of provision for addicts is regarded by psychiatrists in Eire as a very welcome part of the Act. An addict is a person who by reason of addiction to drugs or intoxicants is dangerous to himself or to others or incapable of managing his affairs, or one who, by reason of addiction to drugs, intoxicants, or perverted conduct, is in serious danger of mental disorder.

If the chief medical officer of an institution becomes of opinion that a person detained under a temporary order will not have recovered at the end of six months he may request the Minister of Local Government and Public Health to extend the period by further periods of six months, but not to a greater extension than eighteen months—a more expeditious procedure than that followed in England and Wales under the Mental Treatment Act, 1930. It is anticipated that the vast majority of patients other than voluntary ones will be received as temporary patients.

Voluntary patients may themselves (or through their parents or guardians if they are under 16) apply to be received in an approved institution, the application being accompanied by the recommendation of a doctor who has examined them. Such patients may give notice that they wish to leave the institution within 72 hours. If while being treated they become mentally incapable of expressing themselves as willing or not willing to remain, they may be discharged into such custody as the person in charge of the institution approves. Absence on parole may be permitted for 30 days, and the period may be extended.

Mental Clinics

Other provisions are designed to simplify the transfer of patients for special treatment from one hospital to another, to allow the authorities to board-out patients, and to require private institutions to be registered by the Minister instead of, as formerly, to be licensed by judges. Mental hospital authorities are to be allowed to establish consulting-rooms or clinics at the mental hospital or elsewhere at which advice and preventive or curative treatment may be given. Private patients attending such clinics will be charged for attendance on a scale approved by the Minister. Two or more mental hospital authorities, with the Minister's consent or at his direction, may maintain jointly an institution for any class of patients who are not dangerous to themselves or to others, and a joint authority may be set up for the management of such institutions. It is hoped that this provision will be widely used in any future scheme for development and extension of mental hospitals. A former Act provided that two or more district mental hospitals might unite in providing a laboratory for pathological research. This provision was never taken up; it is now re-enacted, with the addition that the authorities must make such provision if the Minister directs. Eighteen mental hospital districts are set up under the Act, corresponding to counties or unions of two counties with their county boroughs.

Dr. Joseph Kearney, Inspector of Mental Hospitals, Local Government Department, Dublin, states that the Act has been welcomed by psychiatrists generally and has received unstinted praise from the Irish Branch of the Royal Medico-Psychological Association. He adds: "It seems justifiable to hope that when its various provisions are made effective we shall have in this country a statutory code well in advance of corresponding provisions in other countries."

Dr. Joseph Paynter Holt, former associate professor of physiology at the University of Louisville, has joined the medical department of the Standard Oil Company (New Jersey) as a specialist in toxicology. He will be responsible for research into the biological effects of toxic substances.

Obituary

W. E. THOMAS, M.D., J.P.

We have to announce with much regret the death of William Evans Thomas, of Ystrad Rhondda, Glamorganshire, a veteran member of the British Medical Association who did fine work for his colleagues in Wales and had been a member of the Central Council from 1923 to 1944 and before then regularly attended meetings of the Representative Body for eighteen years. He joined the B.M.A. in 1891 and served on many committees and subcommittees at headquarters, his longest periods of service being on the Welsh Committee and the Insurance Acts Committee from 1919 to 1944. When the Association met at Cardiff in 1928 he held office as president of the Section of Medical Sociology, and no Annual Meeting seemed complete without his genial presence. Dr. Thomas graduated M.B., C.M. at the University of Edinburgh in 1885 and took his M.D. in 1892. He was a Justice of the Peace for the county of Glamorgan and served as High Sheriff of Merioneth in 1927–8.

Dr. A. T. JONES, past-president of the South Wales and Monmouthshire Branch, sends the following tribute:

This country, and Wales in particular, has lost a great leader in the medical fraternity by the death of Dr. W. E. Thomas, J.P., of the Rhondda, South Wales. He was known and referred to by nearly everybody as "W.E." He came to the Rhondda as an assistant to Dr. James nearly sixty years ago, and succeeded to the practice at his death. He married one of Dr. James's daughters. The practice grew very extensively, and Dr. Thomas had to engage three, and sometimes four, assistants. His main surgery was at Llysygraig and he had two or three branch surgeries. He was an indefatigable worker and gave personal attention to all his patients. He loved his profession and was kind, sympathetic, and considerate to those who suffered. He was keenly interested in any advancement and development in the art of medicine. He held several appointments, such as district medical officer, public vaccinator, and visiting medical officer and surgeon to the Llwynypia Hospital, which latter post he held until the County Council appointed a resident surgeon to the hospital, Dr. Melbourne Thomas, who is still resident medical officer of the institution. Outside his profession he took a keen interest in social and political activities. He was a member of the Rhondda District Council, a County Councillor, and Alderman of the Glamorgan County Council. He held these posts for many years until he decided to retire and give up public work.

Dr. Thomas was a good, sound, practical medical practitioner. He was a member of the Insurance Committee for Glamorgan from its inception and chairman of the Panel and Local Medical Committee from the start. He was a true leader of the profession, reliable and solid in his advice and leadership, especially at the time when the Insurance Act of 1912 came into force. He took an active part in affairs of the British Medical Association, being for many years the representative of the North Glamorgan and Brecknock Division. He was also a member of the Central Council and was re-elected annually for a number of years; he attended the meetings regularly and was active in their deliberations. He was a member of the Insurance Acts Committee, to which he was elected annually as one of two representatives for Wales. He was of course elected president of the South Wales and Monmouthshire Branch, which office he filled with dignity and ability. After the completion of fifty years in practice he was elected president of the Branch for a second time in 1935. This proves the esteem in which Dr. Thomas was held by the members of the Branch.

"W.E." was a most loyal man and was truly sympathetic to his colleagues and friends. He was ever ready to help anyone in difficulty. Mrs. Thomas, his first wife, died in about 1932. He married for the second time and his wife has proved herself a devoted helpmeet. He lost his two daughters, one a girl of 19 and the other a girl of 14. These, as I know personally, were severe blows to him. He is survived by one son. Dr. Thomas had reached the mature age of 82. He had suffered physically for the last few months, but he was mentally alert, and as a friend and admirer of his, I say his death is a grievous loss when our profession is passing through a critical period in its history.

Dr. EDWARD ANGEL GAYNES DOYLE, who died in retirement at Watford Heath, Herts, on Jan. 21, had been a member of the British Medical Association for 62 years. Born in 1860, he studied medicine in London at the Westminster Hospital and took the M.R.C.S. and L.R.C.P. diplomas in 1883. Dr. Doyle practised for many years at San Fernando, in the Island of Trinidad, and had held the posts of medical officer for South Naparima and San Fernando, and resident surgeon to the Trinidad Colonial Hospitals. He was president of the Trinidad Branch of the B.M.A. in 1922–5.

Universities and Colleges

UNIVERSITY OF OXFORD

The Board of Management invites candidates for the Francis Gotch Memorial Prize, the examination for which will take place on Saturday, March 2, at 2.30 p.m., in the University Department of Physiology, Oxford. Candidates are requested to send in their names and qualifications to the Board of Management, University Department of Physiology, Oxford, by Saturday, Feb. 23.

In a Congregation held on Dec. 15, 1945, the degree of D.M. was conferred on G. R. Girdlestone.

In a Congregation held on Dec. 22 the following degrees were conferred:

M.CH.—B. B. Hickey.

B.M., B.CH.—R. Ruddock-West, L. D. Hamilton, R. Gillett, H. A. K. Rowland, M. Paneth, J. Towers, G. M. Woodman, Aleida E. M. M. R. Bisschop, Pamela F. M. Causer, Barbara J. Nathan, E. H. Hadfield, Hilary J. E. Allen, Elizabeth Radovitch, Leila M. Taylor, Helen M. Wagstaffe.

UNIVERSITY OF LONDON

D. V. Glass, Ph.D.(Econ.), has been appointed to the University Readership in Demography tenable at the London School of Economics and Political Science. He has worked in the Social Biology Department of the School, and in 1936–40 was research secretary to the Population Investigation Committee.

The following candidates have been approved at the examinations indicated:

M.D.—*Branch I (Medicine)*: F. L. Dyson, I. M. Hall, A. E. Jones, M. Roth C. J. Stewart, W. M. L. Turner, H. Wolfsohn. *Branch II (Pathology)*: J. H. H. Keall, R. F. Welch. *Branch IV (Midwifery and Diseases of Women)*: L. W. Hefferman. *Branch V (Hygiene)*: W. N. Taylor.

UNIVERSITY OF GLASGOW

Intensive postgraduate courses in medicine and in surgery, consisting of clinical meetings and lectures, will be conducted from March 11 to April 13. As numbers will be restricted those wishing to attend should make early application to the Convener, Committee on Postgraduate Medical Education, the University, Glasgow, W.2, from whom copies of the syllabus for the courses may be obtained. The fee for either course is fifteen guineas.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The following anatomy lectures will be delivered at the College (Lincoln's Inn Fields, W.C.) at 5 p.m. on each day: Feb. 4, 6, 7, 11, 13, and 14, Prof. F. Wood Jones, F.R.S., six lectures on osteology. Feb. 18, 20, 21, 25, 27, and 28, Prof. A. J. E. Cave, six lectures on the anatomy of the head and neck. Fellows and Members of the College will be admitted free of charge on signing the attendance register. The fee for others is as follows: Anatomy course (Feb.) £2 2s.; applied physiology course (March) £2 2s.; pathology course (March) £2 2s. A composition fee of £5 5s. may be paid for all three courses. Tickets may be obtained on application to the secretary of the College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

Prof. F. A. E. Crew, M.D., F.R.S., will deliver the Finlayson Memorial Lecture on "Medico-sociological Problems of an Ageing Population" in the hall of the Royal Faculty of Physicians and Surgeons, 242, St. Vincent Street, Glasgow, on Wednesday next, Feb. 6, at 4 p.m.

SOCIETY OF APOTHECARIES OF LONDON

At a meeting of the Court of Assistants, held recently with the Master, Dr. Hugh F. Powell, in the chair, the death of Sir Farquhar

Buzzard, Honorary Freeman of the Society, was received with great regret.

Dr. J. P. Hedley was appointed representative of the society on the General Medical Council, and Mr. L. Vernon Cargill on the Chelsea Physic Garden Committee.

A handsome bronze rhinoceros (as depicted on the society's crest) was presented by Dr. C. R. Box, and medical books and instruments were received from the estate of the late Dr. E. S. White, Liveryman.

The Diploma of Mastery of Midwifery was granted *honoris causa* to Mr. Arthur C. H. Bell, late Examiner.

The following were appointed Examiners to the society in the subjects named: *Midwifery*, Dr. W. N. Searle; *Mastery of Midwifery (Paediatrics)*, Dr. R. W. B. Ellis; *Materia Medica and Pharmacology*, Dr. C. A. Keele; *Diploma in Industrial Health*, Dr. A. J. Amor, Dr. J. C. Bridge, Prof. F. A. E. Crew, Dr. Margaret Dobbie-Bateman, Dr. M. W. Goldblatt, Dr. E. R. A. Merewether.

The Diploma was granted after examination to the following candidates: G. C. Mayer, B. Dawes, C. J. W. Soutar, T. J. Thompson, M. W. Johnston, D. Wimborne, J. C. Matthews, R. G. G. Jones, I. H. Mercer, F. J. Offord, R. A. Wilkinson, R. C. Jennings, D. D. Forbes, B. H. Pickard, P. J. Roden, J. Flinter, R. J. C. Hutchinson, R. Clitherow.

The Services

The American Bronze Star for meritorious service has been awarded to Major William Robert Henderson, late R.A.M.C., for saving American lives while he was a prisoner of war in Germany from May, 1940, to May, 1945.

Temp. Surg. Lieut. R. A. de K. Glover, R.N.V.R., has been mentioned in dispatches for good service, efficiency, and zeal while serving in H.M.S. *Easton* during operations in the Aegean from Sept. to Dec., 1944, including the landing of Royal Marine Commandos at Cape Psalis and the bombardment, in the Athens-Piraeus area.

The following have been awarded the R.N.V.R. Officers' Decoration: Surg. Cmdr. M. Godwin, and Surg. Lieut.-Cmdrs. R. F. B. Bennett, E. E. Henderson, R. D. Jenkins, D. R. Hughes, P. M. Coats, and A. I. L. Maitland, R.N.V.R.

Col. R. W. Richardson, E.D., R.C.A.M.C., has been appointed O.B.E. (Military Division), and Major (Acting) T. A. Gander and Capt. E. C. Vandervoort, R.C.A.M.C., have been appointed M.B.E. (Military Division), in recognition of gallant and distinguished services in Italy.

Capt. (Temp. Major) G. C. K. Reid, R.A.M.C., has been granted a King's Commendation for brave conduct.

Capt. J. R. S. Third, R.A.M.C., has been mentioned in dispatches in recognition of gallant and distinguished services while a prisoner of war.

The Order of the Star of Nepal, Fourth Class Honorary (with the title of Manya Nepal Tara), has been conferred upon Capt. H. N. Roy, I.M.S., and Capt. N. Uddin.

The following appointments and awards have been announced in recognition of gallant and distinguished services in North-West Europe:

K.B.E. (Military Division).—Major-Gen. E. Phillips, C.B., C.B.E., D.S.O., M.C., late R.A.M.C.

C.B.E. (Military Division).—Brig. (Local) R. K. Debenham, O.B.E., and Brig. (Acting) G. K. Fulton, M.B.E., R.A.M.C.

O.B.E. (Military Division).—Cols. (Acting) W. D. Jackson, M.C., and F. C. Miller, M.C., Col. (Temp.) A. R. Oram, M.C., Lieut.-Col. R. Rutherford, T.D., Lieut.-Col. (Acting) H. V. Brennan, and Lieut.-Cols. (Temp.) C. Bainbridge, J. C. Caird, R. S. Handley, S. Heatley, F. F. Heilier, G. H. G. Hope, M.C., D. F. Hutchinson, G. A. Kane, T.D., A. G. R. Lowdon, R. L. Mackay, G. A. G. Mitchell, J. Neill, K. G. W. Saunders, H. Sissons, J. M. Tait, and F. W. A. Warren, T.D., R.A.M.C. Cols. W. A. Jones and G. E. Wight, Col. (Acting) C. C. Ross, Lieut.-Cols. J. A. Dauphinee, M. R. Elliott, R. B. Kerr, and F. L. Shipp, and Lieut.-Col. (Acting) J. B. Bundock, R.C.A.M.C.

M.B.E. (Military Division).—Lieut.-Cols. (Acting) K. E. A. Hughes and R. Paul, Lieut.-Col. (Temp.) R. J. Phillips, Majors W. H. Scriven and A. P. D. Thomson; Majors (Temp.) I. Aubrey, M.C., S. O. Aylett, R. Barraclough, J. Bleakley, P. W. H. Bleasdale, J. A. C. Burridge, G. B. Carter, W. N. Chisholm, C. H. Davies, M. H. A. Davison, P. F. Dedow, C. M. Elliot, G. W. Hearn, G. A. Hodgson, A. E. Loden, H. H. I. Pearson, H. G. Percy, S. F. Raistrick, W. D. Richardson, G. M. Ross, C. I. Tuckett, R. H. Webber, C. J. Wells, and K. S. Wilson; Capts. R. W. Clarke, P. J. Hardie, R. B. McGrigor, D. D. Muir, and Agnes D. D. Murray; Lieuts. R. J. Hughes, W. Mills, and J. C. E. Sundell, R.A.M.C. Majors N. J. England, D. K. Grant, H. I. Palmer, W. S. Keith, F. J. McLean, J. B. Neilson, and A. F. W. Peart; Majors (Acting) W. F. Bie, W. F. H. O'Neill, and R. L. Reeves; Capts. F. A. Jennings, H. A. Roberts, N. Kaufman, G. C. Sweet, and J. C. G. Young, R.C.A.M.C.

First Bar to the D.S.O.—Col. (Temp.) M. MacEwan, D.S.O., O.B.E., D.F.C., T.D., R.A.M.C.

D.S.O.—Lieut.-Col. M. H. Summers, T.D., and Lieut.-Cols. (Temp.) W. M. E. Anderson, A. Cowie, and E. H. P. Lassen, R.A.M.C.

M.C.—Major (Temp.) J. C. Watts and Capts. K. W. Beetham, L. S. Cooper, J. H. Haldane, H. M. Kershaw, G. H. McPherson, H. E. S. Marshall, J. G. Mott, C. T. H. Whiteside, and W. J. W. Wolfe; Lieut. W. J. Gallagher, R.A.M.C. Capts. B. L. P. Brosseau and W. M. Byers, R.C.A.M.C.

Medical Notes in Parliament

Nursing Shortage

The EARL OF MANSFIELD in the House of Lords on Jan. 24 asked if the Government knew that a number of hospitals had been compelled to close one or more wards owing to shortage of nursing staff, and even so were unable to avoid the nurses having to work such long hours that their health suffered. He asked what the Government was doing to remedy this, and whether it was prepared at once to close redundant military hospitals and to transfer sufficient nurses to ease the situation in civil hospitals.

The EARL OF LISTOWEL said the Government had taken certain measures to increase the supply of nurses, including the adoption from Jan. 1 of improved scales of salaries and the issue of a circular to hospital authorities urging increased employment of male nurses with special reference to those returned from the Forces and the establishment of more training schools for men. He said the powers of direction and control of engagement of nurses and other persons who had more than a year's recent nursing experience, and of midwives, were being retained for six months beyond Dec. 20, 1945, but no longer, to ensure that nurses and midwives were distributed between the health services according to need. He understood from Mr. Lawson that military hospitals were being reduced in size as quickly as equipped beds became surplus to establishment. Nursing officers were being released from the Army according to a programme based on a bare sufficiency being retained for the nursing requirements of the Army. Over 3,100 nursing officers of the Q.A.I.M.N.S. and some 2,000 V.A.D.s had been released or discharged up to the end of Nov., 1945.

Refresher Courses

Sir ERNEST GRAHAM-LITTLE asked on Jan. 22 whether the Secretary for War was aware that medical officers about to be released from the Services required to spend some considerable time in refresher courses to fit them for undertaking civil practice; and whether he would arrange with the Minister of Health that these courses should be provided and followed by such officers before being admitted to civil practice. Mr. LAWSON answered that all medical officers released from the Army were informed of the facilities available under the Government's scheme for postgraduate training and refresher courses. This scheme, common to all three Services, was drawn up by the Ministry of Health and the Department of Health for Scotland, in conjunction with the universities and other interested bodies. Every encouragement was given to medical officers to avail themselves of these facilities before entering civil practice.

Specialists in the R.A.F.

Mr. STRACHEY told Sir E. Graham-Little on Jan. 23 that in the R.A.F. Medical Branch specialists were recognized as such when they acquired a higher medical qualification in their specialty and had been recognized as competent by the consultant concerned. Specialists had been employed since the formation of the R.A.F. in 1918, though the general use of the title grew up only during the recent war. It was now used when officers so qualified were appointed to established posts for specialists. Specialist pay did not follow recognition as a specialist in the R.A.F., but specialists normally received higher rank than non-specialist medical officers. This accorded with the recommendation of the report made in 1933 by the Committee on the Medical Branches of the Defence Services. Two specialists, one oto-rhino-laryngologist and one anatsthetist, each employed in this respective specialty, had been appointed to the R.A.F. Medical Branch since VJ-Day. They were both replacing specialists released in Class B. Specialists had been demobilized in their age-and-service groups up to Dec. 31, 1945, but since then no doctors had been allotted to the Royal Air Force, and the Force had to retain seven specialist officers who

were occupying established specialist posts until the Central Medical War Committee could provide replacements. One of them was already being relieved and would now be demobilized.

Health Service Discussions

Sir HENRY MORRIS-JONES on Jan. 24 asked the Minister of Health whether he had yet started consultations with the representatives of the voluntary hospitals and the medical profession on the national health proposals, and whether the result of the discussions would be made public. MR. BEVAN said he was engaged in discussions with representatives of the medical profession, local authorities, voluntary hospitals, and others, to obtain their expert advice on his proposals for the National Health Service. His proposals would be published in the usual manner by the introduction of draft legislation for the approval of Parliament.

Major HUGH FRASER on Jan. 24 asked the Minister of Health to make a more precise statement on the future administration of British hospitals. Mr. BEVAN asked the members to await the presentation to Parliament of the Government's proposals.

Doctors on Pensions Boards.—On Jan. 24 Air Commodore HARVEY asked how many medical officers employed in a full-time capacity by the E.M.S. were also employed and remunerated on a sessional basis by the Ministry of Pensions for work on boards. He asked for an assurance that this practice would cease in view of the fact that medical men released from the Services were unable to obtain part-time employment on pensions boards. Mr. PALING answered that so far as he was aware no such medical officers were employed by his Department at the present time.

Notes in Brief

Arrangements are being made to release from the Forces a small number of ophthalmic lens workers in Class B.

There is no prospect of any early increase in the soap ration.

The Government has not yet determined its permanent policy in regard to flour and bread.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were more prevalent during the week. The increases were: acute pneumonia 280 more cases, whooping-cough 142, scarlet fever 105, dysentery 59, diphtheria 56, cerebrospinal fever 33.

The rise in scarlet fever was general, no area showing a large incidence. The increase in whooping-cough was in the northern section of the country. Diphtheria rose by 22 cases in Northampton C.B., by 14 in Lancashire, and by 13 in Durham; the only significant fall was Nottinghamshire 17. A large outbreak of measles in Southampton Port Health District involved 79 persons. During the past three weeks the numbers of cases of cerebrospinal fever have been 38, 53, and 86, these being spread over the country.

No fresh large outbreak of dysentery was reported during the week. A further 162 cases in the Melton Mowbray area of Leicestershire brings the total for the past three weeks to 414. The other noteworthy returns were Lancashire 36, London 28, Rutland 16, Northumberland 15, Yorks West Riding 13, Essex 11.

In *Scotland* large increases were recorded in the incidence of measles (124 more cases), acute primary pneumonia (72 more), whooping-cough (62 more). The only notable decreases were scarlet fever 37, and diphtheria 15. The fall in diphtheria was most marked in the western area; in other parts of the country there was a small general rise. Scarlet fever in Glasgow fell from 94 to 68.

In *Eire* the rises in measles (50 more cases) and whooping-cough (32 more) were mainly contributed by Dublin C.B., where there were also 17 more cases of diarrhoea and enteritis.

Vital Statistics of Manchester

The provisional return for last year showed that the maternal mortality rate, 1.48 per 1,000, was the lowest ever recorded in the city. The birth rate was 18.15, and the infant mortality 56.27 per 1,000 live births, these rates being 1.70 and 2.68 respectively above those of 1944. The general death rate was 14.49, an increase of 0.29 on that of the preceding year. The death rate from tuberculosis was 0.92, compared with 0.91 in 1944.

Week Ending January 19

The returns of infectious diseases in England and Wales during the week included: scarlet fever 1,331, whooping-cough 1,251, diphtheria 478, measles 726, acute pneumonia 1,310, cerebrospinal fever 62, dysentery 371, paratyphoid 1, typhoid 3. One case of smallpox was imported into Southampton. Deaths from influenza in the great towns numbered 174.

No. 2

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 12.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946 (a)	(b)	(c)	(d)	(e)	1945 (Corresponding Week) (a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	86	93	24	2	1	53	1	30	2	—
Deaths		3	1				1	3		
Diphtheria	525	35	157	76	12	459	20	154	113	20
Deaths	7	1	2	1	—	5	1	3	5	—
Dysentery	344	28	37	1	—	302	36	82	—	5
Deaths				—					—	—
Encephalitis lethargica, acute	4	1	—	—	—	4	—	1	1	—
Deaths		—					—			
Erysipelas			53	12	2			45	9	4
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				33					10	
Deaths	58	7	8	16	2	52	2	9	14	1
Measles*	777	86	156	153	4	10,979	210	889	14	239
Deaths	3	—	1	1	—	18	2	2	—	—
Ophthalmia neonatorum	78	5	15	1	—	58	—	19	—	1
Deaths										
Paratyphoid fever	2	—	—	—	1 (B)	5	—	3 (B)	—	1 (B)
Deaths	—	—	—	—	—	1	—	—	—	—
Pneumonia, influenzal	1,445	84	57	11	10	1,399	72	17	5	14
Deaths (from influenza)†	165	13	21	1	4	72	14	2	2	1
Pneumonia, primary			504	30				319	22	
Deaths		102		17	14		85		23	29
Polio-encephalitis, acute	1	—				3	—			
Deaths		—					—			
Poliomyelitis, acute	10	1	1	—	—	7	—	—	1	—
Deaths		—					—			
Puerperal fever		5	11		—		4	6		—
Deaths										
Puerperal pyrexia‡	154	18	17	1	1	127	8	6	—	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,355	117	226	17	25	1,330	52	212	21	37
Deaths	2	—	—	—	—	3	—	—	—	1
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	3	1	5	13	—	5	1	3	2	1
Deaths	—	—	—	—	—	—	—	2	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,190	91	99	42	7	1,678	57	285	50	9
Deaths	11	1	1	5	—	13	1	2	1	1
Deaths (0–1 year)	460	69	62	53	14	512	53	68	66	34
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	6,784	1,071	882	247	168	6,857	1089	745	288	170
Annual death rate (per 1,000 persons living)			20·0	15·8				16·9	18·6	
Live births	7,221	1,055	882	493	277	6,586	647	884	286	260
Annual rate per 1,000 persons living			17·6	31·6				17·7	18·5	
Stillbirths	211	19	39			203	18	38		
Rate per 1,000 total births (including stillborn)			42					41		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Medical News

Dr. G. L. Brown will give an address on "Some Physiological Problems of Service at Sea" before the Royal Institution, 21, Albemarle Street, W., to-day (Friday, Feb. 1), at 5 p.m. The last three of a course of lectures on "Some Recent Advances in the Physiology of Vision" will be delivered by Prof. H. Hartridge, M.D., F.R.S., at the Royal Institution on Tuesdays, Feb. 5, 12, and 19, at 5.15 p.m. (The first lecture in this series was given on Jan. 29.)

A meeting of the London Association of the Medical Women's Federation will be held at B.M.A. House, Tavistock Square, W.C., on Tuesday, Feb. 5, at 8.30 p.m., when Dr. Marjorie Warren will speak on "The Care of the Aged and Chronic Sick." On March 7 Miss Jocelyn Moore will speak on "Gynaecology in the Women's Services."

There will be a clinical meeting of the Medical Society of the L.C.C. Service on Thursday, Feb. 7, at 2.45 p.m., at Maudsley Hospital, Denmark Hill, when the members of the staff of the hospital will demonstrate cases.

Major-Gen. Sir John Megaw will deliver the Sir George Birdwood Memorial Lecture on "The Health of India" before the India and Burma Section of the Royal Society of Arts, John Adam Street, Adelphi, W.C.2, on Thursday next, Feb. 7, at 2.30 p.m.

Meetings of the West London Medico-Chirurgical Society have been arranged as follows: Feb. 15 and May 17, clinico-pathological meetings; March 15, Presidential address; and April 26, dinner-discussion. The Cavendish Lecture will be delivered in June. Details will be published later.

The Royal Society of Medicine has arranged a meeting jointly with the Scientific Film Association on Tuesday, Feb. 26, at 1, Wimpole Street, W.1, to discuss the place of films in medical education. The time-table is: 2.15 to 4.15 p.m., speakers on theory; 4.15, tea; 4.45 to 6.45, speakers on practice. The following have been invited to open the discussion: Mr. Patrick Meredith, Reader in Visual Education at University College of the South-West; Dr. H. K. Vernon, Chief Adviser in Psychology to the Admiralty; Prof. Winifred Cullis; and Dr. G. R. Hargreaves (late of Directorate of Army Psychiatry). It is hoped that many interested in technical adjuncts to medical education may be present.

A lecture on "War Experiences in Therapeutics" will be given by Prof. G. A. H. Buttle at the Pharmaceutical Society of Great Britain (17, Bloomsbury Square, W.C.) on Thursday, Feb. 14, at 7 p.m.

The Edinburgh Postgraduate Board for Medicine announces that the fourth 14-day general refresher course primarily for demobilized medical officers (Class 2) will start on Monday, March 18. Applications should be sent to the Director of Studies, Postgraduate Medical Board, University New Buildings, Edinburgh, 8.

Application is invited for Leverhulme Fellowships and grants in aid of research. These are intended for senior workers prevented by routine duties or pressure of other work from carrying out research. They are limited to British-born subjects normally resident in Great Britain, but in exceptional circumstances the trustees may waive the condition as to residence. The trustees will also consider applications from groups of workers engaged upon co-operative programmes of research, particularly from those engaged upon long-distance programmes or in institutions where the normal facilities for research have been curtailed by the war. The awards will not normally extend over more than two years or less than three months and the amount will depend on the nature of the research and the circumstances of the applicant. Forms of application may be obtained from the secretary, Dr. L. Haden Guest, M.P., Leverhulme Research Fellowships, 7, Bedford Row, London, W.C.1. Applications must be received by March 1, and awards will date from Sept. 1, 1946.

Dr. William Oswald Gibson Taylor is being invited by the Scottish Nationalist Party to contest the Cathcart (Glasgow) by-election caused by the death of Mr. Francis Beattie (Cons.). Dr. Taylor graduated M.B., Ch.B. at the University of Glasgow in 1934 and served during the war as an ophthalmic specialist in the R.A.M.C.

The Association of Austrian Doctors in Great Britain, which is affiliated to the Free Austrian Movement, has launched an urgent appeal to all colleagues in this country. Children, women, and old folk in Austria, survivors of concentration camps, will face not only hunger and cold this winter, but complete lack of the most essential drugs. Help is needed, and donations should be sent to the Aid to Austria Appeal Committee Medical Fund, 157, Bloomsbury House, Bloomsbury Street, London, W.C.1.

Mr. Samuel Davidson has been appointed honorary obstetric surgeon to the Birmingham Maternity Hospital to fill the vacancy caused by the death of Sir Beckwith Whitehouse, and Mr. R. W. Weeden Butler has been appointed honorary ophthalmic surgeon.

King Edward's Hospital Fund for London has received a further instalment of £125,000 from the Nuffield Trust for the Special Areas. In founding this trust Lord Nuffield provided that any sums that might be available by way of repayment of loans or otherwise from his Trust for the Special Areas should pass to the King's Fund. A total sum of £500,000 has now been received, the first £250,000 of which was, at Lord Nuffield's request, allocated to Guy's Hospital.

Mr. Ralph Bates, F.R.C.S., medical superintendent of Stoke Park Colony, has recently been appointed medical superintendent of the Royal Eastern Counties' Institution for the Mentally Defective, Essex Hall, Colchester.

A limited issue of penicillin lozenges is now being made for use in appropriate cases at hospitals. Medical practitioners will also be able to obtain a limited supply for carefully selected cases in their own practices by application to the nearest distributing centre.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumshcugh Gardens, Edinburgh.

ANY QUESTIONS?

Treatment of Eunuchoidism

Q.—*A man of 21 developed normally until the age of 14, when he suffered from mumps with bilateral orchitis. He is now worried by his smallness, high voice, and lack of beard. Females attract him, not males; he has occasional erections but no nocturnal emissions. There is "down" on his face, slight axillary hair, and a small clump of pubic hair, showing no signs of rising up the linea alba. His penis is that of a prepubertal youth. His testes are small, the right in the scrotum, the left at the external inguinal ring. What is the treatment?*

A.—When bilateral orchitis is a complication of mumps recovery may be complete, or damage may be limited to the seminiferous tubules, or it may involve the interstitial cells of Leydig, which secrete testosterone. The seminiferous tubules are much more sensitive to toxins, and to high temperature, than are the interstitial cells, and the more usual condition, therefore, is normal virility but absence of fertility. However, in some cases, when the interstitial cells are also involved, one gets the condition of eunuchoidism, which is the clinical picture as described in the question. Treatment is by testosterone, which may be given as injections of the propionate, 50 mg. twice weekly, or as methyl testosterone tablets, 5 mg. t.d.s., or by implantation of testosterone propionate pellets subcutaneously, a total of 800 mg. being a suitable dosage.

Menstrual Migraine

Q.—*A single lady aged 34 complains of intractable headaches starting some days before menstruation and lasting for about a week. The usual remedies have no effect, and the same applies to stilboestrol and gonadotrophin. It appears to be a pituitary type of headache. Menstruation is otherwise normal. Can you suggest a line of investigation and treatment?*

A.—Cyclical headaches of this kind, sometimes described as menstrual migraine, may be of pituitary origin, but not necessarily. They are sometimes associated with high gonadotrophin and low oestrogen levels; gonadotrophic hormone therapy is therefore contraindicated—it may make matters worse. Sometimes they are related to the retention of sodium and fluid in the tissues, and this in turn to a high oestrogen level in the blood. If, therefore, there is any sign of premenstrual oedema, distension, or increase in weight, oestrogens are also contraindicated. Many are the theories to account for the headache—swelling of the pituitary gland, cerebral anaemia, vasodilatation of cranial and cerebral blood vessels, hormone imbalance, allergy, neurosis. It would be of interest, if nothing more, to have the skull *x*-rayed to see if the roof of the pituitary fossa is calcified. A complete investigation of eyes, teeth, ears, sinuses, etc., as in any case of migraine, is also called for. Although oestrogens (including stilboestrol) and testosterone preparations administered

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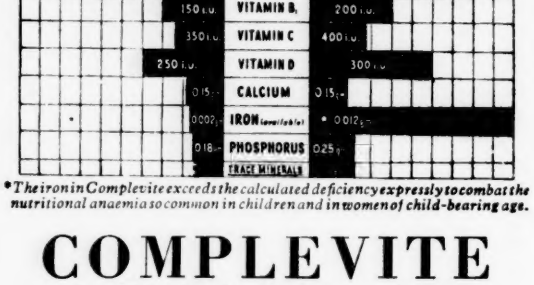
WINTER INFECTIONS

Avoiding complications and sequelae

Febrile illnesses call for reduction in diet. The amounts of light foods which can be tolerated supply a lower calorific intake than is needed. Deficiency in the vitamins is even more important. Requirements increase with the heightened metabolic rate and several of the vitamins cannot be stored.

A multiple vitamin and mineral supplement (Complevite) is an essential addition to restricted diets. It should be begun immediately the restriction begins and continued throughout the course of the illness and in convalescence.



**The iron in Complevite exceeds the calculated deficiency expressly to combat the nutritional anaemia so common in children and in women of child-bearing age.*

COMPLEVITE

A multiple vitamin and mineral supplement

Further particulars from Vitamins Ltd. (Dept. B.C.C.), 23, Upper Mall, London, W.6.

DEPRESSION

The following instances of simple depression are familiar to every physician:

1. Depression following acute infectious diseases, typically influenza.
2. Post-partum and post-operative depression.
3. Depression accompanying the menopause in women and the involutional period in men.
4. Depression associated with menstrual dysfunction.
5. Reactive depression precipitated by an external problem situation which the patient cannot resolve, tolerate or ignore.

In all such cases 'Benzedrine' therapy may be expected to help reawaken mental alertness and optimism and to restore the savour and zest of life.

'BENZEDRINE' TABLETS

Each tablet contains 5 mg. amphetamine sulphate. Samples and literature on request.

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premenstrually are reported to be helpful sometimes, in general the results are disappointing. Treatment on more simple lines, aimed at reducing fluid retention and intracranial pressure, is often the best. Advise the patient to keep to a salt-free diet and to restrict her intake of fluid to 30 oz. (852 c.cm.) in 24 hours, for seven to ten days premenstrually. Over the same period give ammonium chloride, gr. 15 (1 g.) t.d.s., by mouth, and also saline aperients if necessary. Avoid all sodium salts. Sometimes the intramuscular injection of a mercurial diuretic, one or two days before menstruation, is worth while in cases in which the above is insufficient.

If in spite of treatment the headaches continue, large doses of ergotamine tartrate by mouth (1 to 5 mg. initially, followed by 1 to 2 mg. every three or four hours) should be tried, keeping in mind its dangers if continued too long. It has recently been suggested that ergometrine works equally well, but I have no experience of this. Inhalations of pure oxygen are also said to give symptomatic relief in some cases.

If the headaches still persist, the patient will probably sooner or later raise the question of having the menopause induced artificially. If she does, it is contraindicated. As a last resort, however, and if the headache is very intense and associated with a calcified roof to the sella turcica, *x*-ray therapy to the pituitary gland might be considered, although it often has untoward side-effects, such as the development of obesity. Reference might be made to previous questions and answers on menstrual migraine which appeared in the *Journal* of Aug. 21, 1943 (p. 255), and Sept. 18, 1943 (p. 379).

First Aid for Cresol Burns

Q.—*With the increase in the use of plastics, phenol and cresol burns are likely to become more frequent. During the process of manufacture of the "resin" employees are sometimes splashed by hot cresol. What is the best first-aid treatment?*

A.—If the burning substances are not of a tarry nature, making them stick tightly to the skin, the burn should simply be put under the cold tap to relieve pain for the moment. Tap water has usually so few potential pathogens that it is safe. Stored normal saline is less safe unless one can be sure the bottle has never been opened since it was sterilized, but it has no real advantage over tap water. Hands and unsterilized linen should *not* be used for swabbing the burns. After they have been cooled with tap water they should be covered with a sterile cloth. Every factory should keep a number of such sterile cloths, wrapped in good stout paper and sterilized in an oven, for these emergencies. If the burn is too extensive and involves the trunk, so that it cannot readily be washed with tap water, pain should be controlled, if necessary, by morphine and the patient sent to hospital with the least possible delay.

Cirrhosis of the Liver

Q.—*What is the modern treatment of Hanot's (hypertrophic) cirrhosis of the liver?*

A.—The existence of a special hypertrophic type of cirrhosis (Hanot) is not generally accepted nowadays. Patients with chronic disease of the liver who have hepatic enlargement and persistent or recurrent jaundice usually prove to be suffering from subacute necrosis of the liver, and at necropsy they show a coarse or adenomatous type of cirrhosis with a variable amount of fatty infiltration. In cirrhosis due to alcoholism the liver may be large as a result of an increased content of fat. Jaundice may occur in all forms of subacute necrosis and cirrhosis; it usually signifies an increased activity or recrudescence of the disease process. A biliary type of cirrhosis should not be diagnosed in the absence of signs of obstruction or infection of the biliary passages. In the absence of these signs the patient should be treated as for subacute necrosis or cirrhosis. Possible causative factors, such as toxic drugs or chemicals, should be looked for. The main treatment is by diet. The fat intake should be reduced to a minimum, the protein intake moderately increased, and the bulk of the calories provided by carbohydrate. The vitamin intake should be raised: A, D, and K to compensate for the fat restriction, and the B complex for its therapeutic effect. Choline chloride has been recommended in this type of case. It is expensive, and the treatment is still experimental. It would be wise to begin with a dose of 1 g. t.d.s., and increase gradually up to, say, 4 g. q.d.s., preferably in solution after meals. If oedema or ascites appears, the salt intake should be reduced and one of the mercurial diuretics given. If jaundice is present the most effective remedy is probably rest in bed.

Sterility of Sulphonamides and Penicillin

Q.—*I understand that drugs of the sulphonamide group require sterilization before use. A non-medical American druggist tells me this is not the case. I should be glad of chapter and verse to convince him that the sulphonamides do require sterilization, as they are not antiseptic in the true sense of the word. Is this also the case with penicillin?*

A.—That a dry powder cannot be bactericidal is so self-evident a proposition that "chapter and verse" in support of it is hard to seek. Whether the sulphonamides are antiseptic in the true sense of the word is a question which simply does not arise in this connexion, because clearly whatever action they have can be exerted only in solution. The questioner's incredulous American friend is either under a strange misapprehension or really means that sulphonamides are so manufactured as to be bacteria-free, and so for that reason do not require to be sterilized. Contamination by dust or packing material, possibly containing tetanus spores, may nevertheless occur. The most accessible publication whereby he can be convinced of his error is *The Medical Use of Sulphonamides*. 2nd edition (M.R.C. War Memo. No. 10). The sterilization of sulphonamide powders is dealt with on the last page, which notes both the *U.S. Pharmacopoeia* tests for sterility and the work of Welch, Slocum, and Herwick (*J. Amer. med. Ass.*, 1942, **120**, 361), who showed that sulphanilamide powder contaminated with tetanus spores produces tetanus in animals—i.e., so far from killing the spores, the drug does not even prevent their ultimate multiplication in the body.

Penicillin as supplied by the manufacturers is sterile, and solutions or other preparations made under satisfactory aseptic conditions should, therefore, not require further sterilization. If for any reason this should be thought necessary, it can be achieved only by filtration, since heat is destructive to penicillin. Some surgeons insist on the filtration of penicillin solutions to be used for intrathecal injection. Bacteria resistant to the action of penicillin, such as coliform organisms, will survive indefinitely in solutions of it.

Morphine in Coronary Thrombosis

Q.—*Is it good practice to give 1/4 gr. (16 mg.) of morphine to relieve pain in coronary thrombosis or angina pectoris? Most G.P.s of experience must have had cases in which the patient died suddenly as the morphine was being absorbed.*

A.—The injection of morphine is the correct treatment of coronary thrombosis; gr. 1/4 (16 mg.) should be given subcutaneously at once, and this dose repeated if relief from pain does not soon follow. For spasmodic or effort angina trinitrin is the treatment of choice: a tablet containing gr. 1/100 (0.65 mg.) is allowed to dissolve under the tongue, and one or two more may be taken if the pain is not relieved within a few minutes. Should the pain persist, morphine gr. 1/4 (16 mg.) is injected subcutaneously. The writer has not encountered the disaster to which reference is made, but in considering the possibility of cause and effect it must be remembered that death from ventricular fibrillation may occur abruptly at any time, and that this is most likely to happen in the earlier stages—the period during which morphine is likely to be administered. The remote possibility of such an accident should certainly not deter the physician from prescribing morphine for the relief of pain in coronary thrombosis or other forms of angina.

Treatment of Asymptomatic Congenital Syphilis

Q.—*If a mentally defective child is found to have a positive blood Wassermann without any clinical evidence of syphilis, what treatment should it have? Would clinical or serological evidence of syphilis in the parents and/or siblings make any difference to the treatment prescribed?*

A.—If a mentally defective child is found to have a *persistently* positive blood Wassermann reaction, and if, as a result, a diagnosis of asymptomatic congenital syphilis is made, the cerebrospinal fluid should be examined to exclude neurosyphilis. Assuming that the fluid is negative, treatment should consist of weekly injections of an arsenical compound—neoarsphenamine if intravenous therapy is practicable, and sulpharsphenamine if the child is very young or has difficult veins—and a bismuth compound. These injections should be given concurrently in courses of ten of each, with rest intervals between courses of four to six weeks at first, increasing later. Treatment should extend over two years, or even longer if the serum reactions are not reversed, and thereafter the patient should be kept under observation for at least three years; dosage will depend on the age of the child and its tolerance to the drugs. Penicillin might be worth trying, but should be employed in addition to, not instead of, arsenic and bismuth. As yet there is little evidence available as to its value in such a condition. Clinical or serological evidence of syphilis in parents and/or siblings would serve to confirm the diagnosis, but would not affect the type or amount of treatment.

Adult Reactions to Diphtheria Immunization

Q.—*In using A.P.T. in adults there have been some local reactions. What preparation should be used to immunize adults against diphtheria?*

A.—Reactions to diphtheria prophylactic reagents are seen particularly in persons who give a pseudo-reaction to the Schick test; that is, those in whom a skin reaction occurs with the control material. This pseudo-reaction, which has been shown to correspond with the Moloney reaction (elicited by the subcutaneous injection of 0.1 c.cm. of diluted formol toxoid), appears in persons who are partially immune and who therefore seem to be rather allergic to

diphtheria toxoid. In such individuals any one of the diphtheria antigens—toxoid, A.P.T., or T.A.F.—given in the usual dosage will elicit reactions of varying degrees of severity. Large-scale immunization of an adult population, or of older school-children, should therefore not be undertaken without preliminary Schick-testing. Pseudo-reactors are preferably not given any injections, as, being already partially immune, they are unlikely to develop diphtheria, and indeed the Schick test material itself is often sufficient to render them negative to further tests. If, however, preliminary Schick-testing cannot be done, the safest prophylactic for adults is T.A.F. An initial dose of 0.2 c.cm. should be given to all volunteers, and non-reactors should receive two further doses of 1 c.cm. at three to four week intervals. Reactors should not be given any further injections.

Senile Pruritus

Q.—*Is complete rest in bed likely to prove beneficial to an intractable case of senile pruritus in a patient aged 80?*

A.—Senile pruritus is unlikely to benefit from rest in bed, and might even be made worse, because the patient is able to give more attention to the itching skin.

Clicking Joints in a Baby

Q.—*A mother states that she can hear the joints of the back cracking in her 14-months child. I have been unable to find any abnormality. Should I refer the case to an orthopaedic surgeon?*

A.—The present writer in an extensive orthopaedic practice has seen a few small infants who have had queer clicking joints. The phenomenon appears to be without any great significance, for these symptoms seem to disappear. Unless there is any clear evidence of physical disturbance one would suggest leaving the problem and reviewing it from time to time. If the mother continues to be distressed by the peculiarities which the child presents it would certainly be worth while seeking confirmatory advice.

INCOME TAX

Assistant Provided with Furnished House

S. B. employs two assistants, each of whom has the use of a free furnished house ; he pays income tax on the rental value and also owners' and tenants' rates.

*** S. B. can deduct as an expense of the practice the amounts on which he bears income tax in respect of the properties—as he could deduct the rent if he rented them. He can also deduct the payments he makes for repairs, rates, maintenance of furniture, insurance, and other current expenses incurred on the properties.

Appointment: Travelling Expenses

I. W. is a medical officer whose duties involve a good deal of travelling. As he is compelled to live out he receives an allowance of £100 per annum. When he goes away he receives a subsistence allowance of 14s. a day for the first 7 days and 9s. a day for succeeding days. These rates, it is suggested, are too low, as they compare unfavourably with the 20s. a day which would be paid as subsistence if he were living in a hospital. Can he claim anything for income-tax purposes in view of his low subsistence rates?

*** The governing principle is that a claim can be made only for expenses incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." What I. W. would have to do to succeed in his claim would be to satisfy the local inspector of taxes (or on appeal from his decision a board of commissioners) that the cost of his visits outside his residential radius was necessarily greater than the amounts allowed him by his employer; and in measuring that cost it is to be presumed that any savings in respect of food, etc., at his residence would be taken into account. Obviously his prospects of success depend on his particular circumstances, but proof of the correctness of his claim would be difficult.

Fluctuation in Income

E. T. first became liable to income tax for 1944–5, but since April, 1945, owing to illness, has earned only £16. Can the two years be combined or averaged?

*** No; each financial year must be treated as an isolated unit.

Appointment: Car Expense

H. S. had retired and subsequently accepted an appointment involving attendance at a board held 12 miles distant from his residence. Can he claim to deduct the expense of travelling to and from the board?

*** No. In the circumstances the expense is incurred not "in performing the duties of the office" but antecedently in order that H. S. may be in a position to commence performing his duties. The case is somewhat similar to that of an employee who lives in the suburbs and travels to his employment.

LETTERS, NOTES, ETC.

Medical Books for Yugoslavia

Mr. HAROLD EDWARDS (King's College Hospital, Denmark Hill, S.E.5) writes: The doctors of Yugoslavia are very short of modern British medical literature, having received practically none since the war started. They are most anxious to make good this shortage, and on a recent visit to Belgrade I promised those who asked me—and they were many—to do what I could to help. If any of your readers can spare any standard works or series of periodicals (odd ones or twos are of little value) published in the United Kingdom since September, 1939, and would send them to me I will undertake to have them forwarded to Yugoslavia through military channels by kind agreement of the D.G.A.M.S., Sir Alexander Hood. A gift of this kind would be appreciated very much, and may help to increase the friendship and good will between the two countries. It is suggested that contributors write inside each volume: "The gift of (name and address)." This may lead to the development of individual friendships.

Coccygodynia

Dr. T. ASTLEY COOPER (Birmingham) writes: I wonder if any other practitioner has had similar experience to mine. I have had to deal lately with a rather interesting case of coccygodynia. The man is about 40 years of age and complains that from time to time he awakes during the night with a vague sensation of discomfort in the region of the sacrum. This discomfort gradually develops into a most intense neuralgic pain in the region of the coccyx. Nothing will relieve the pain until, after pacing the bedroom for some time, a small amount of flatus is passed. The pain then subsides, but is so severe at the time that it leaves him quite exhausted. Another interesting feature is that it will frequently occur after sexual intercourse. Physical examination is quite negative and there is nothing to be discovered per rectum. These attacks have occurred at intervals since childhood. The only information I can get is that it is coccygodynia—which is obvious; but no help as to the possible cause of this pain or suggestions regarding its prevention. I presume it is due to pressure, but what the mechanism of this is remains rather a mystery.

Abortion and the Birth Rate

Dr. B. DUNLOP (Binfield, Berks) writes: Your welcome article (Dec. 29, p. 926) about the book *Britain and her Birth-rate* contains a long quotation from it which asks: "Is the sad truth to-day that children are distributed in inverse ratio to knowledge and the ability and desire to assimilate facts?"; and which later says: "There is no reason to suppose that legislation will alter this pattern fundamentally." I submit that legislation could, however, alter this pattern fundamentally by relaxing the abortion law sufficiently to enable women to avoid having more children than they desire—a law which is an outstanding infringement on liberty.

Hospital Sérvice Plan

Dr. S. M. R. THOMSON (London, E.13) writes: The letter by Sir Hugh Lett and Dr. W. Russell Brain on the London Hospital Service Plan (Dec. 29, p. 936) brings to the notice of the medical profession a very useful scheme. While it is a good plan for the general public, I would recommend it also to doctors and their dependants. The fees for hospital and for medical and surgical in-patient treatment are paid direct to the hospital and to the surgeon or physician who has given the necessary treatment. If a doctor or his dependant has been the patient this simplifies the question of gifts for service rendered and puts the whole matter on a business-like basis, more satisfactory to all concerned.

Nylon for Buried Sutures

Dr. T. RUSSELL STEVENS (Dorchester) writes: May I assure Mr. H. A. Haxton (Jan. 12, p. 66) that I will try his method of tying knots with nylon. Our case for nylon is strengthened by the two letters by Mr. H. I. Deitch and Mr. H. J. McCurrich, immediately following his letter. I would suggest to all those who are champions of catgut that there is no argument about the properties of nylon, such as has been raging about catgut. *Verb. sap.*

Nodules at Site of A.P.T. Injection

Dr. M. F. MCDONNELL (Northfleet, Kent) writes: With reference to the answer given to the query about nodules forming after immunization with A.P.T. (Dec. 22, 1945, p. 908), we find that the following procedure eliminates the lump: (1) insert needle vertically and *deep* into upper deltoid muscle; (2) withdraw needle and gently massage the muscle at site of injection.

Correction

We regret an error on page 3 of the *Journal* of Jan. 5. "A rapid transfusion of a pint (473 c.cm.) of blood" is wrong. The pint to be transfused should have been an Imperial pint (568 c.cm.) and not a United States Apothecaries' pint (473 c.cm.).